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The Social History of a Midland Business: Flower & Sons Brewery, Stratford-upon-Avon, 1870-1914.

by

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PhD Thesis

Social History
University of Warwick

1998

Summary

This thesis is concerned with brewery workers in England between 1870 and 1914. It deals with most aspects of labour management and workers' experiences, including their recruitment, training, promotion, working conditions, benefits and retirement. Besides being written in a way which mirrors most labourers' working lives, this study is concerned with these institutions during a dynamic period in a particular industry at a specific midland firm. Primarily, it examines working conditions and business practices at Flower & Sons Brewery in Stratford-upon-Avon and the way in which these evolved in relation to certain scientific and technological developments specific to the late nineteenth and early twentieth centuries. Although considering economic and political conditions in their national scope, this study also emphasises the local context of employment and business during this period.

Most recent histories of the English brewing industry have examined the state of the trade at the turn of the century, as well as developments in science and technology as they related to the trade. Few, however, have had anything to say about the industry's workers, whether employed in manual or clerical capacities. Consequently, this study is an attempt to fill a noticeable gap in the existing literature. However, unlike past histories of labour, this study considers the experiences of the trade's employees within a business-history framework, while always employing the broadest possible definition of what constitutes a worker. It is through tracing a particular firm's financial and administrative past, together with workers' experiences, roles and duties, that makes this study a social history of a midland business.

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List of Illustrations

Illustrations are not included

Acknowledgements

During the period in which this thesis was researched and written, I have become indebted to many archivists and their staffs. However, as the majority of the records relating to Flower & Sons Brewery are contained in the collections deposited at the Shakespeare Birthplace Trust Records Office, it is to the archive's staff, particularly Dr Robert Bearman, Miss Mairi MacDonald and Mrs Eileen Alberti that I am especially grateful. Furthermore, the Trust's Jubilee Grant, along with a travel grant provided by the Midland History Society, funded much of the research undertaken during this project. In addition, I would like to thank Warwickshire County Record Office; Coventry City Record Office; Birmingham Central Library; Walsall Local History Centre; Hereford and Worcester Record Office; Gloucestershire Record Office; Hereford Record Office; Sheffield City Archives; Norfolk Record Office; Greater London Record Office; the British Library's Science Reference and Information Service; Suffolk Record Office; Cambridge Record Office; and numerous university libraries and their staffs. Finally, although I had hoped the contents of company archives would have been made more available for the purpose of this study, I am, nevertheless, grateful for some information provided by Nick Redman of Whitbread Archives, London. The free rein of Courage Archives in Bristol which was provided to me by Ken Thomas, however, certainly made up for any difficulties I encountered in gaining access to company-held records. His help is greatly appreciated.

Considerable information about the industry was also provided by its past directors and workers. In particular, I would like to thank Dennis Flower, Lady Flower, David Comyns, Ron Huckvale, Ivy Gardiner and the late Eddie Booker, whose memories of the trade during the First World War and after were especially illuminating. The reminiscences of the dozens of anonymous workers who attended Whitbread's pensioners' dinners were equally enlightening and also regularly complemented Flower & Sons' rich archival material.

I would also like to thank my supervisors, Professor Gwynne Lewis and Dr Joan Lane, who suggested I undertake this study after having completed my MA dissertation in Labour History at the Centre for Social History in 1994. Besides the

idea for this thesis, I owe a great deal to my primary supervisor, Joan Lane, who has consistently gone beyond the call of duty in efforts to help this project along. Her editorial, research and general historical skills not only ensured this PhD to be an invaluable learning experience, but also an enjoyable one. Both also read through earlier drafts of this thesis, always returning them to me greatly improved. My work has also benefited from comments made by colleagues, particularly those who attended seminars held at Warwick University's Centre for Social History, The Northern Victorian Studies Colloquium at Trinity and All Saints, Leeds and the Economic History Society's Annual Conference (1998) where I had the opportunity to present a number of my findings.

Finally, I would like to acknowledge the support of family and friends, especially Marsha Henry, who witnessed these ideas solidify over countless dinners, visits and conversations.

J. B. R.
University of Warwick,
8 June 1998

Glossary of Terms

barrel

Thirty-six gallon oak vessel used for the storage and transport of draught beer. Other measures regularly used at Flower & Sons included the butt (108 gallons), hogshead (54 gallons), kilderkin (18 gallons), firkin (9 gallons) and pin (4½ gallons).

Burton union system

Method of fermentation developed in Burton during the 1840s and introduced to Stratford in 1870. Fitted with 'swan-neck' pipes, large wooden casks contained beer which cleared as yeast worked itself into troughs where it was collected for future use or sale.

bushel

A measure of capacity for corn equivalent to eight gallons, or, alternatively, fifty-six pounds for barley and forty-two pounds for malt.

cooler

Shallow vessel, usually constructed of wood, into which hot wort is transferred after having been boiled with hops.

copper

The vessel in which the brewers' wort is boiled with hops.

cresset

An iron vessel or fire grate made to hold wood or coal which is burnt for light or heat. Traditionally, each cooper's individual work space, or block, contained a cresset used not only to make timber pliable, but also to cook meals.

fermentation

Chemical change involving effervescence and the production of heat, induced by an organic substance such as yeast.

finings

Gelatinous substance traditionally made of isinglass and old (acidic) beer which is added to fresh brews before or after it is racked, depositing sediment at the bottom of the vat or cask and leaving the beer clear and bright.

grist

Screened and ground malt grains used for brewing.

hop back

A brewing vessel fitted with a perforated false bottom used to separate hops from the wort after boiling.

isinglass

Purest form of animal gelatin which is obtained from fish, especially the swim bladders of sturgeon, and used in the manufacture of finings due to its strong adhesive properties.

liquor

Term used by brewers to denote water which is used in the brewing process.

mash tun

The vessel in which malt is mashed, or thoroughly mixed, with hot water to form wort.

original (or specific) gravity

A ratio of a substance's density to that of some reference substance. For liquids it is the ratio of their density to that of water (at its maximum density). The measure was especially important to brewers for they were taxed according to the total amount of solids dissolved in the wort, prior to fermentation, after the abolition of the Malt Tax in 1880.

pitching

The addition of yeast from a previous brew to the cooled, hopped wort.

quarter

Eight bushels or sixty-four gallons.

racking

The process of drawing fermented beer from vats into containers.

sparging

The practice of spraying the grains in the mash tun with hot water in order to extract as much fermentable material as possible.

stinker

A rotten and decaying cask.

wort

The infusion of malt or another grain which, after fermentation, becomes beer or spirits.

yeast

A group of very small, single-celled fungi which reproduce by fission or budding and are capable of transforming carbohydrates into alcohol and carbon dioxide. Certain species of the genus *Saccharomyces* are used to leaven bread and ferment beer.

Abbreviations

BCL	Birmingham Central Library
CA	Courage Archives, Bristol
CCRO	Coventry City Record Office
CRO	Cambridge Record Office
DBB	*Dictionary of Business Biography*
DNB	*Dictionary of National Biography*
EHR	*Economic History Review*
GLRO	Greater London Record Office
HRO	Hereford Record Office
HWRO	Hereford and Worcester Record Office
JFIB	*Journal of the Federated Institutes of Brewing*
JIB	*Journal of the Institute of Brewing*
NRO	Norfolk Record Office
SBTRO	Shakespeare Birthplace Trust Records Office
SCA	Sheffield City Archives
SRO	Suffolk Record Office
WA	Whitbread & Co. Archives, London
WCRO	Warwickshire County Record Office
WLHC	Walsall Local History Centre

Introduction

Material relating to England's brewing industry has recently re-entered economic and social history debates, especially since the publication of Terry Gourvish's and Richard Wilson's *The British Brewing Industry, 1830-1980* (1994), which continues an earlier history of the trade from 1700 to 1830 written by Peter Mathias in the 1950s.[1] While such grand narratives inevitably focus heavily on London and other regional brewing centres, such as Burton, a fact which the authors themselves have acknowledged, subsequent studies have also revealed the trade as it evolved in the provinces.[2] The most important of these projects include interesting works of local history, such as Philip Eley's *Portsmouth Breweries since 1847* and Peter Shinner's description of Grimsby's trade in the nineteenth century, and very comprehensive, commissioned accounts of particular firms, of which Richard Wilson's detailed study of Greene King is perhaps the best example.[3]

Although these authors' approaches inevitably differ, often only slightly, the commercial brewing process has changed very little since the mid- to late-nineteenth century. While the biochemical actions of yeast and chemical reactions which take place during fermentation continue to be investigated by chemists and biologists, the steps by which hops, barley, yeast and water are combined and transformed into English ale are more familiar to the public than ever in the past. Not only is the process repeatedly described in scientific texts, but most histories of the trade briefly

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[1]A recent publication which places these debates into an international context is T. Gourvish and R. Wilson (eds), *The Dynamics of the International Brewing Industry Since 1800* (1998).
[2]T. Gourvish and R. Wilson, *The British Brewing Industry, 1830-1980* (1994), p. 382. The authors also critique J. Vaisey's work, *The Brewing Industry, 1886-1951* (1960), which incorporates a similar bias, see p. 384. Mathias's study, on the other hand, concentrates on the London trade, a point emphasised in E. Sigsworth, *The Brewing Trade during the Industrial Revolution* (1967), p. 3.
[3]P. Eley, *Portsmouth Breweries since 1847* (1994); P. Shinner, 'The Brewing Industry in Nineteenth Century Grimsby,' in *Journal of Local and Regional Studies*, XVI (1996); and R. Wilson, *Greene King: A Business and Family History* (1983).

outline the operation in order that readers may familiarise themselves with obscure terms and expressions and other aspects peculiar to the trade. For the purposes of this study, a summary of Peter Mathias's description of the brewing process has been included in the introduction, not only to make the overall claims of this thesis more accessible, but in order to frame an argument which his work helps initiate and thereby set this thesis apart from the body of literature pertaining to the trade as it currently exists.

In the introduction to Lesley Richmond's and Alison Turton's *The Brewing Industry: A Guide to Historical Records*, Peter Mathias, like many other brewing historians, provides a useful introduction to the subject by carefully outlining the basic brewing procedure.[4] Assuming the typical English brewery made its own malt, Mathias begins by describing the way in which barley is transformed into malt and milled into a coarse powder, called grist. Mixed with hot water in the brewer's mash tun, starch contained in the grains is then converted to maltose which dissolves to form a sweet malt solution, commonly referred to as wort. This dense sugary liquid is separated from the spent grains and run off into a brewing copper to which hops are added, and the contents are boiled; sugars may also periodically be added to the solution in order to increase the fermentable materials available to the brewer. After the hops have been strained from the mixture, the brew is permitted to cool and aerated to increase the rate of fermentation which takes place in one of a number of special vessels. Yeast is then pitched, or added to the mixture, in order to convert sugar to alcohol and carbon dioxide. Over several days, a fluffy yeast crust, or head, forms on the product and is periodically skimmed off. During racking, the beer is

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[4]P. Mathias, 'Brewing archives: their nature and use,' in L. Richmond and A. Turton (eds), *The Brewing Industry: A Guide to Historical Records* (1990).

filled into casks and permitted to condition. Extra hops and priming sugars may be added to increase the strength or adjust carbon dioxide in the beer. Finally, residual yeast cells and other particles in the beer are cleared by the addition of finings or isinglass which deposits them as sediment.

Although these descriptions are almost always useful to an understanding of the trade, Mathias's particular essay also presents the reader with several uncertainties. Presumably, the entire process was not mechanised to the extent that the product of each brew was efficiently passed from one stage to the next in the brewery buildings. While gravity was an important motive force in many of the tower breweries constructed in England during the nineteenth century, human intervention had not been made entirely obsolete as the result of this and other technological innovations. Nevertheless, descriptions, like the one above, give little indication of the worker's role in the production process. Instead we are left asking a number of simple, but practical, questions. For example, who ground the malt into grist? How did this material find its way to the mash tun? Did the same individual perform both tasks? Or even, were goods carefully measured, and was theft a problem which plagued brewers? As Mathias's particular article is immediately proceeded by detailed lists of brewery archives, many of which contain material relating to the subject of labour, it challenges historians to address these neglected aspects of the industry's past.

In general, most business histories have had very little to say about the general conditions of labour or the experiences of the average worker.[5] Instead, business

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[5]This was one of many criticisms made by B. W. E. Alford of A. Chandler's work, *Scale and Scope* (1990), which has been very influential in shaping the field of business history in America and Britain; see B. W. E. Alford, 'Chandlerism, the New Orthodoxy of U.S. and European Corporate Development,' in *Journal of European Economic History*, XXIII (1994), p. 640. Numerous historians, however, have attempted to address this weakness. For example, see R. Fitzgerald, *British Labour Management & Industrial Welfare, 1846-1939* (1988); H. Gospel, *Markets, firms, and the management of labour in modern Britain* (1992); and his article 'The Management of Labour: Great Britain, The U.S. and

historians regularly revert to a traditional form of history writing, namely, that 'from above', whereby business histories become narratives primarily concerned with a firm's founding families, their partners and their successors.[6] Few business historians deal with issues concerning the labour process, often ignoring the experiences of workers altogether. Although, over the years, ideas of labour recruitment, training and management have regularly been discussed in contemporary business management texts, they are still frequently neglected by business historians, or left to labour historians to write as separate accounts.[7] What results is a history of a firm's creation and growth of production and sales over a given number of years. Despite the critiques of social historians, among other scholars, this disciplinary tradition has endured and essentially become a dominant narrative. For example, in an article which recently appeared in the *Author*, the journal of the Society of Authors, Stephanie Zarach describes business history as being 'simply a multi-sided biography'.[8] Moreover, Zarach does not even consider the difficulties associated with writing a commissioned history.

While the multi-sided biography may be the aim of some business historians and is unarguably a very accessible form of historical narrative, most business histories too often resemble boards of directors' annual reports. Usually researched and written by an historian trained in an economic discipline primarily for the eyes of

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Japan,' in *Business History Review*, XXX (1988), p. 107. Since then, one of Chandler's more recent works addresses the question of labour in relation to the history of the firm, see A. Chandler, R. Tedlow and T. McCraw, *Management Past and Present: a casebook on the history of American business* (1996). Seven of the seventeen cases which comprise the volume address the subject of labour.

[6]G. Lewis, 'Whatever happened to Social History?' Centre for Social History Seminar, University of Warwick, October 1995; and interview with Gwynne Lewis, July 1996. Wilson's *Greene King: A Business and Family History* is an example of a business history in which this particular approach is somewhat justified simply due to its subtitle.

[7]See, for example, P. Drucker, *The Practice of Management* (1968). In the final paragraph of the introduction to *Scale and Scope* (p. 13), Chandler acknowledges that the task of writing the history of the relationship between managers and their workforces has been left to others.

[8]S. Zarach, 'Multi-sided Biography: writing business histories,' in the *Author* CVIII (1997), p. 169.

a firm's senior managers or marketing department, the average company history tends to be a sympathetic account of a firm's growth over a given number of years.[9] Ignoring the experiences of workers, these historians have been described by the discipline's greatest critics, such as the business biographer, Harold Livesay, to resemble weapons of mass destruction, 'wiping out the people while leaving the buildings intact'.[10]

Although an exaggeration, Livesay's evaluation in some respects appears to apply to much of the recent work relating to England's brewing industry. Although a number of studies of provincial firms have corrected some of the genre's weaknesses, they have also failed to address the labour process in any detail. As a result, David Gutzke's recent bibliography of drink, *Alcohol in the British Isles* (1996), does not contain an entry for labour in the drink trades. Ian Donnachie's history of the industry in Scotland remains the only work which contains an entire chapter devoted to labour, although most of his conclusions remain hypothetical and are not based on a detailed examination of wage and salary ledgers.[11] To be fair to traditional business historians, wage and salary ledgers have not survived as well as have directors' reports and sales ledgers. Nevertheless, some evidence clearly exists, as Richmond's and Turton's

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[9]Over the years, the field of business history has been a very easy target for criticism by scholars. For a good discussion of past critiques see T. Gourvish 'Business history: in defence of the empirical approach?,' in *Accounting, Business and Financial History*, V (1995), especially p. 9; D. C. Coleman, 'The uses and abuses of business history,' in *Business History*, XXIX (1987); and C. Harvey and G. Jones, 'Business History in Britain into the 1990s,' in *Business History*, XXXII (1990).

[10]H. Livesay, 'Entrepreneurial dominance in businesses large and small, past and present,' in *Business History Review*, LXIII (1989), p. 5; and Gourvish, 'Business History,' p. 10.

[11]I. Donnachie, *A History of the Brewing Industry in Scotland* (1979), p. 20. A lack of primary evidence also led Donnachie to conclude that 'no business archives can convey much about the day-to-day mechanics of brewing or the working conditions of the ordinary labourer', see *ibid.*, p. 94. A less-cited source of information relating to brewery workers is D. Knox, *The Development of the London Brewing Industry, 1830-1914* (1956), especially pp. 146-62. Work on the development of the brewing industry in other countries does not necessarily address the issue of labour more regularly. In Gourvish's and Wilson's edited collection of essays *The Dynamics of the International Brewing Industry Since 1800*, only K. Austin Kers's article, 'The American Brewing Industry, 1865-1920,' touches the subject, though only briefly.

guide demonstrates, and greater efforts are needed to include this material in business histories.

Interestingly, not only business historians have failed to describe the experiences of brewery workers; few labour historians have discussed the trade. As a result, brewery workers rarely appear in the indices of labour histories, where brassworkers are more often, and quite conspicuously, followed by bricklayers. Generally, this appears to be the result of a tendency among labour historians to concentrate on institutions rather than individuals.[12] As most nineteenth- and early twentieth-century brewery workers remained unorganised, few of their experiences are recorded in trade journals; any early unionisation in Britain appears to have been limited to Ireland. Branches of the trade which witnessed some success in establishing combinations were breweries' cooperage departments. Coopers' unions, however, generally remained regionally based and, despite regular fluctuations, were strongest in London and Burton. Greater organisation for the average brewery employee came only in the middle of the present century. While this thesis covers only the first years of the twentieth century, it will deal primarily with non-unionised labourers.

What little information existing studies reveal about brewery labourers suggests most had lengthy careers and worked in very paternalistic environments;[13] not surprisingly, the former characteristic has been attributed to employers' highly personal managerial styles.[14] Despite these interesting findings, most historians have not examined brewery labour in greater detail. Instead, attempts have been made to diminish the importance of labour in the overall picture of the trade. For example,

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[12]J. Turner, 'Labour and Business in Modern Britain,' in *Business History*, XXXI (1989), p. 2; see J. Zeitlin, 'From Labour History to the History of Industrial Relations,' in *Economic History Review* (*EHR*), XL (1987), for a defence of this approach.
[13]Gourvish and Wilson, *The British Brewing Industry*, p. 198.
[14]Fitzgerald, *British Labour Management & Industrial Welfare*, pp. 138-9.

John Vaisey considers labour only briefly in his study of the industry from 1886 to 1951 due to the insignificance of wages compared to the costs of licensing, property and duties.[15] Moreover, the poor organisation of brewery workers determined that labour never delayed the introduction of new technology to firms, though the diffusion of such innovations certainly changed the nature of work in breweries. Surprisingly, despite his important work on the subject, Donnachie also appears to justify the omission of labour from the majority of studies, as the industry was 'no great employer of labour';[16] nationally, in the late nineteenth century, their numbers totalled approximately 80,000. Even members of the trade in the nineteenth century, however, argued this was not an excuse for neglect.[17] There were certain districts where the trade eventually concentrated and brewery labourers consequently comprised a significant proportion, if not the majority, of a region's inhabitants. As a result, the tendency of brewing historians to neglect the role of labour from their studies does not appear to be justified by the number of workers enumerated nationally;[18] in some towns, their presence dominated social and cultural life.

Traditionally, the trade has always been associated with Burton due to the number of breweries established in the town during the middle of the last century. In 1893, the town was host to thirty-one breweries employing 8000 workers.[19] Histories of the town have naturally considered the role of labour simply due to the overwhelming number of brewery workers who lived there. However, there were

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[15]Vaisey, *The Brewing Industry*, p. 88.
[16]Donnachie, *A History of the Brewing Industry in Scotland*, p. 34; and P. Mathias, *The Brewing Industry in England* (1959), p. 37. Donnachie also interprets the poor survival rate of wage ledgers as another indication of the insignificance of labour costs to brewers, see *ibid.*, p. 94. This, however, rarely stopped brewers from designing their plants in ways which reduced labour requirements.
[17]A. Hartley, 'Practical Notes on Brewery Management,' in *Journal of the Federated Institutes of Brewing* (*JFIB*) (1895), p. 368.
[18]According to the *Brewers' Journal*, 20 October 1866, the trade employed 86,000 workmen.
[19]Fitzgerald, *British Labour Management & Industrial Welfare*, pp. 139-40.

other towns which were noticeably ruled by the trade during this period. Tadcaster, for example, became one of Britain's better-known brewing towns and was regularly referred to as 'the Burton of Yorkshire', as were Wrexham and Alloa of Wales and Scotland, respectively.[20] Other regional centres, however, have since shed all evidence of their industrial pasts. Stratford, for example, is more regularly associated with tourism and Shakespeare than England's brewing heritage.[21] At one time, however, the town was home to Flower & Sons, Warwickshire's 'largest and most famous brewery'.[22]

Founded in 1831 by Edward Flower, the brewery became Stratford's largest employer a few decades after it was founded. Primarily a country town in the eighteenth century, Stratford represented the interests of a farming community. Not surprisingly, most of the town's primary trades, including malting, evolved out of this agricultural tradition, and production at its first brewery initially satisfied the demands of a locally-based clientele. Developments in transportation, however, such as the completion of a canal in 1816, much of which comprised local investment, made for a significant expansion of the town's trade.[23] Soon afterwards, along with a brewery, Stratford attracted timber, lead, glass and coal merchants and several brick manufactories, most of which were based on an industrial site along the Avon, or linked to the town's extensive canal navigations. Better rail transport in the middle of the last century also improved access to many important urban centres, and made

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[20]A. Barnard, *The Noted Breweries of Great Britain and Ireland*, I (1889), pp. 11 and 527.
[21]As early as 1890 in his *Stratford-on-Avon: From the Earliest Times to the Death of Shakespeare* (1890), the *DNB*'s second editor, Sidney Lee, warned against making Shakespeare's name the central feature of all Stratford history and topography. Instead, Lee suggested the town should be treated as a municipality not unworthy of study for its own sake, see Lee, *Stratford-on-Avon*, pp. 5-6.
[22]F. Luckett, K. Flint and P. Lee, *A History of Brewing in Warwickshire* (1982), p. 42.
[23]C. Hadfield, *The Canals of the East Midlands* (1966), p. 180; Shakespeare Birthplace Trust Records Office (SBTRO), ER 7/1/14; and BRU 15/18

distant trade easier to control; during this period, London was approximately a three-hour rail journey from Stratford.[24] Only one firm, however, grew to a size which allowed it to dominate trade in the town.

Like other successful provincial brewers at this time, the Flowers began to look beyond their locality in efforts to increase business, though strong local sales always remained important to the firm's trade. Relatively stable economic conditions and increased sales permitted rapid expansion. Although business conditions continually changed throughout this period, the firm's facilities remained almost unaltered until 1870. A lengthy period of strong sales had convinced the brewery's proprietors to expand production in this year, and Stratford's landscape, not only its local economy, was dominated by what was then one of the most modern of tower breweries in the provinces; generally, this form of production became common throughout much of England between the mid-nineteenth century and the first decades of the twentieth.[25] Moreover, the firm employed nearly 200 workers, approximately 5 per cent of the borough's population and almost a quarter of the heads of households, many of whom depended on the business for their livelihoods. Trade for the town's other firms also hinged on the brewers' continued success. For example, local timber merchants, Cox & Son, provided the business with wood for brewery expansions, as well as the casks in which Flower's pale ale was shipped to the Far East. Numerous smaller businesses, including local grocers, builders, engineers, butchers and veterinarians, however, also profited from the brewery's prosperity. Due to the importance of the business to the town's economy, the general neglect suffered by

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[24]SBTRO, DR 227/106

[25]Sigsworth argues this form of production, for example, was introduced to Yorkshire in the 1860s and 70s, see Sigsworth, *The Brewing Trade during the Industrial Revolution*, p. 16.

Stratford's industrial past and the richness of the brewery's records, the subject of the thesis will concern the relationship between brewery workers, their employers and the town from 1870, when the construction of a tower brewery was completed and the Flower family began to run their business along modern lines, through 1888, when the firm became a limited liability company, to 1914, when the conditions in which the business had evolved, fluctuated and radically changed as a result of war.

The first chapter in this thesis traces the growth of the firm in considerable detail, serving as an introduction to a more comprehensive analysis of other developments in the history of this midland business. Conditions at Flower & Sons were clearly tied to the brewery's record of production and growth and will naturally be discussed within this framework. More specifically, Chapter One charts the growth of the Flower family's firm, as the directors opened new agencies and purchased an increasing number of public houses throughout the years 1870 to 1914. It is not only concerned with the general growth of production, but also of sales and markets and, as a result, of those chapters comprising the thesis, its structure, more than that of any other, will most resemble that of the traditional business history. Subsequent chapters will each cover the same time period, only themes will vary. It is hoped that a combined chronological and thematic approach will enable a considerable amount of empirical material to be presented in historical context. However, one theme, namely that of science and technology, has been regarded as an important catalyst in the industry during these years and will therefore immediately follow Chapter One in order to increase the larger frame of reference in which subsequent material will be considered.

In the past, historians who have grappled with the relationship between science and industry, rather than concentrating on the problems confronted by individual firms, have surveyed entire industries. Consequently, changes which occurred in one branch of an industry, or a specific region, are often used as examples of the ways in which industry as a whole developed. A section of this thesis, to an extent, comprises an effort to correct this by returning to the case study as advocated by an earlier generation of scholars. For example, Schumpeter postulated that capitalism is characterised by evolutionary turmoil associated with technical and organisational innovations occurring at the local level. He consequently advised his followers to study business histories, for the individual was 'the mainspring of progress and growth'.[26] Moreover, it is regarded as too simplistic for historians to argue that change within an industry occurs simultaneously with scientific discovery. Empirical work that has concentrated on innovations and their diffusion at the firm level, has repeatedly stressed much more contingent and malleable paths for technology, a wider range of technical and organisational forms, such as interactive processes, rather than firm-based experiments, and the role of power and chance rather than technical and organisational logic in determining outcomes.[27] Although businesses have been receptive to lessons derived from major scientific discoveries in order to solve their production problems, solutions are generally locally determined. Consequently, Schumpeter's belief is again being advanced by business historians.[28] However,

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[26]S. Pollard, 'Entrepreneurship, 1870-1914,' in R. Floud and D. McCloskey (eds), *The Economic History of Britain Since 1700, Volume Two: 1860-1914* (1994), pp. 63-4. See also J. Schumpeter's article, 'The Creative Response in Economic History,' in *Journal of Economic History* (1947).
[27]C. Freeman, 'The economics of technical change,' in *Cambridge Journal of Economics*, XVIII (1994), p. 469; and S. Tolliday, 'Business History and the History of Technology', Business History Unit, London School of Economics, June 1994.
[28]D. E. H. Edgerton, 'Science and Technology in British Business History,' in *Business History*, XXIX (1987), p. 91.

though many historians appear to have taken notice of such advice, others still find it all too easy to dismiss empirical work carried out by early, practical craftsmen. The fact that equipment and procedures were imperfect by modern standards does not justify the rejection of eighteenth- and nineteenth-century natural philosophy as being 'unscientific'. After all, many of these practical industrialists went on to revolutionise a number of technological processes.

Nevertheless, considerable work has already, to a large extent, eliminated this bias from the existing historiography. Unlike the field of labour, that of science and technology has rarely been neglected by business and brewing historians.[29] For example, Gourvish and Wilson suggest that the period from 1870 to 1900 marked the trade's break with an unscientific past. Primarily the result of work carried out by Louis Pasteur and Emil Hansen, brewers learned to control the brewing process due to a greater understanding of yeast and the importance of cleanliness within the production process. Technological innovations during this period were equally revolutionary. Refrigeration, for example, was being applied to brewing in many more breweries throughout the country at the end of the nineteenth century. Unlike that of the steam engine, however, the role of the refrigerator in British industry has scarcely been researched.[30] Developments in this field would undoubtedly have affected the

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[29]Developments in science and technology are discussed thoroughly by Gourvish and Wilson. Other important works on the science of brewing include: M. Teich, 'Fermentation Theory and Practice,' in *History of Technology* (1983); R. Anderson, 'Yeast and the Victorian Brewers,' in *Journal of the Institute of Brewing* (*JIB*) (1989); R. Bud, 'The zymotechnic roots of biochemistry,' in *British Journal for the History of Science*, XXV (1992); N. Redman, *Louis Pasteur and the Brewing Industry* (1995); and E. Sigsworth's seminal article, 'Science and the Brewing Industry,' in *EHR*, XVII (1965).

[30]This point is also made in Teich, 'Fermentation Theory and Practice,' p. 131. One of the few works to comment on the demand for artificial refrigeration in England during this period is R. Thévenot, *A History of Refrigeration throughout the world* (1979). Some of the best-known histories of the steam engine include: A. E. Musson and E. Robinson, 'The Early Growth of Steam Power,' in *EHR*, XI (1959); H. W. Dickenson, *A Short History of the Steam Engine* (1963); L. T. C. Rolt, *Thomas Newcomen: The Prehistory of the Steam Engine* (1963); D. S. L. Cardwell, *From Watt to Clausius* (1971); R. A. Buchanan and G. Watkins, *The Industrial Archaeology of the Stationary Steam Engine* (1976); G. N. von Tunzelmann, *Steam Power and British Industrialisation to 1860* (1978); R. Hills, *Power from Steam* (1989); J. Tann, 'The Steam Engine on Tyneside in the Industrial Revolution,' in

experiences of brewery workers. Despite historians often describing these changes as revolutionary, however, we are left with few details as to the effects of both scientific and technological changes on the labour process.[31]

While Chapter Two examines the extent of scientific and technological changes and their repercussions on the trade, Chapter Three considers the skills of the average brewery employee. As earlier studies of the trade have revealed the transmission of knowledge within the industry to have been highly dependent on apprenticeship, the chapter will discuss the evolution of technical education during a period which witnessed the emergence of zymotechnology, the science of fermentation. However, while workers also very often acquired their skills outside the firm, the chapter begins by considering the firm's policy of recruitment. As British firms rarely internalised such functions, one would expect this practice was of great importance to brewers despite the existence of more formal training methods. Of further interest will be to assess apprenticeship's ability to survive during years when technical education declined in other industries. Furthermore, the plight of apprentices in a non-unionised environment will be considered, as previous works suggest such training, when placed firmly in the hands of the employer, was degraded into an institution which provided industry with little more than cheap labour.

Chapter Four is perhaps the most descriptive of those comprising this study. Within its pages, the duties of workers will be described in considerable detail. More specifically, it is an attempt to fill in the gaps in Mathias's description of the brewing process. Moreover, the most broad definition of worker is used throughout, in order to

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Transactions of the Newcomen Society, LXIV (1993); and D. S. L. Cardwell, 'Steam engine theory in the 19th century,' in *Transactions of the Newcomen Society*, LXV (1994).

[31]Vaisey, *The Brewing Industry*, p. 86.

consider the experiences of manual labourers as well as clerks and managers. A weakness of many past studies is that few describe the way in which firms were managed. Consequently, reporting lines, control and accounting in decision making 'all remain a mystery'.[32] Furthermore, although the experiences of labourers and entrepreneurs have often slipped into studies carried out by labour, business and economic historians, considerably less work has concentrated on the salesman.[33] In many ways, this chapter attempts to rectify this omission. However, due to the way in which Flower & Sons' firm was run, publicans have generally been omitted from the scope of this study. Unlike their midland competitors, such as Mitchells & Butlers, Flowers never placed salaried managers in their public houses. Due to their independent status, publicans have not been included in what is essentially a company history.

Chapter Five will continue the question of management and deals primarily with the relationship between brewers and their employees. In most recent studies, these have been described as having been amiable, a fact generally attributed to the paternalistic environment of the brewery. Few studies, however, have attempted to describe a particular system in its entirety. Moreover, while sharing the characteristics of the previous chapter, it attempts to reveal the historical context in which the brewery owners' particular paternalism developed and to demonstrate the way in which conflicting traditions have incorporated various contradictions into such managerial schemes, thereby making it very difficult for historians to agree on a working definition of paternalism.

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[32]Gourvish and Wilson, *The British Brewing Industry*, p. 397.
[33]An interesting piece of new research is D. Brown (ed), 'The Autobiography of a pedlar: John Lomas of Hollinsclough, Staffordshire (1747-1823),' in *Midland History*, XXI (1996).

Rather than also attempt to formulate a satisfactory definition of this term, the final chapter will reassess the success of paternalism within an individual firm during a given historical period. Evidence supporting previous interpretations of the system as a viable managerial strategy have focused chiefly on workers' long periods of service and a lack of strikes. Viewed in this way, paternalism becomes little more than a recipe for working-class subordination. Moreover, much recent work has questioned the relevance of such measures in an assessment of a non-unionised workforce. As a result, an effort will be made to uncover more covert signs of worker dissatisfaction using Flower & Sons' and other breweries' detailed wage books. Besides examining labour turnover, drunkenness and more traditional forms of trade disruption, the chapter will also consider the incidence of white-collar crime. Furthermore, an effort will also be made to explain such dissent by returning to the numerous definitions of paternalism which have been advanced in previous historical, sociological and even anthropological investigations.

Although constant efforts are made throughout this study to compare experiences of workers and events in Stratford with those of other breweries in order to measure the representativeness of this particular investigation, the work inevitably tells a very specific story of change in a particular town during a precise period of time. While being an attempt to locate the place of brewery workers in the histories of business and labour, the sheer number of variables which determined events at Flower & Sons and the gaps which exist in the records of those firms against which this case is regularly measured make this a very difficult task. Nevertheless, it is hoped that this particular micro-history will permit historians to re-think an existing macro-history, stimulate further studies and bring us closer to answering this very important question.

Finally, although the role of women in brewery workforces deserves to be addressed, very few were involved in the trade during the period covered by this thesis.[34] At no time between the years 1870 and 1914 did women comprise more than one per cent of Flower & Sons' workforce. However, managers' and directors' wives and daughters, of which Hester Thrale is perhaps best remembered, at times exercised considerable influence at breweries.[35] Their roles in firms' decision-making processes, for example, are almost always overlooked. Moreover, even when these women left financial matters to men, several occupied important positions in the paternalist structure established by brewers and influenced firms' particular methods of labour management. Nevertheless, labourers, when discussed throughout the work in the singular, are regularly described as men, and revealed as women only when this is applicable to the particular employees being discussed.

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[34]Although the issue of women in the trade for an earlier period has been addressed by Judith Bennett in *Ale, Beer and Brewsters in England* (1996), more work is required, especially as the participation of women in the trade appears to have varied depending on region, see, for example, W. A. Riley, 'Brewery Labour Problems,' in *JIB* (1919), especially pp. 160-1.

[35]J. Pudney, *A Draught of Contentment* (1971), pp. 61-5; and Barnard, *The Noted Breweries*, III, p. 231.

Chapter One: The Rise, Fall and Rise of a Provincial Brewery

Although Flower & Sons' Stratford brewery was founded approximately forty years prior to 1870, it was in this year that the firm's managers modernised their production facilities in order to brew in an enlarged plant according to tower methods, a principle adopted at many breweries throughout much of England during these years and which survived well beyond the first decades of the twentieth century. While the general organisation of production remained relatively static between 1870 and 1914, despite the introduction of new technology, the brewery's markets, their degree of penetration and exploitation changed, as they evolved and fluctuated dramatically. This chapter provides an introduction to the state of brewing in Stratford as practised by Flower & Sons in the late-nineteenth and early-twentieth centuries. Other developments in the trade, such as recruitment, training and retirement, will be discussed in later chapters.

Although Edward Flower is credited with having established a successful brewing business in Stratford, almost two decades after he founded his brewery, growth was certainly not remarkable.[1] Total sales alone, however, were not the only confirmation of Edward's success, especially to his contemporaries. That a provincial brewer's ales should have been purchased and enjoyed in a country as distant as India, was indicative of success of another kind. Although the Flower family did not use sales figures in order to justify their reputation, they undoubtedly relied on the fame achieved by their world-renowned product to do so.

Trained in the art of brewing by the Fordhams - uncles and cousins who brewed in Ashwell, Hertfordshire - Edward Flower spent little time in his Stratford

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[1]Flower's entry in *DNB* presents a very optimistic account of the brewery's first thirty years.

brewery during the 1830s.[2] Instead, having entrusted all brewing to apparently unqualified individuals, he suffered from what Francis Lawrence Talbot, a long-time employee made director, years later referred to as 'the crass ignorance' displayed by the operating brewers first employed in the Stratford brewery.[3] After many spoiled brews and having established an equally poor purchasing record, the firm's initial brewers were eventually relieved of their duties. The brewery was rescued by the intervention of the proprietor, who reluctantly took operations into his own capable hands.

While signalling the end of an unsuccessful experimental period, the more stable brews produced by Edward Flower did not lead to a significant increase in trade. Shortly after joining the firm in 1845, Charles Flower found the business to be 'in a small way', paying little more than 'the usual annual household expenses'.[4] Sales in 1847 amounted to £10,220.[5] During a good season the family could have expected to generate a profit equivalent to approximately 5 per cent of this sum. Even in lucrative years, however, both sons, and later partners, Charles and Edgar, found it difficult working with their father. This condition was almost certainly exacerbated by the fact that the brothers had spent considerable time away from home and in boarding schools during their formative years, when they understood little about business, only its effect on their father. When at home, the sons remember their father as prone to

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[2]E. K. & H. Fordham Ltd was originally founded in Ashwell, Hertfordshire by Elias Pym Fordham in the late eighteenth century. Elias Fordham eventually sold his share of the brewery to his son, Oswald, who, together with his brother, Edward King Fordham, ran the family business. After Oswald's death in 1862, Edward King was joined in business by his cousin, Herbert Fordham, and, as of 1864, the firm traded as E. K. & H. Fordham. The brewery was registered as a limited liability company in 1897, see Richmond and Turton (eds), *The Brewing Industry*, p. 145.

[3]F. L. Talbot, 'Fifty years' experience of the quality of beer as it has varied during that period,' in *JIB* (1924), p. 398.

[4]S. Flower, *Great Aunt Sarah's Diary* (1964), p. 6.

[5]SBTRO, DR 227/140

'blow up', frequently suggesting the family emigrate when business was poor.[6] Like his father, Richard, who was prompted to leave England for America due to high taxation and political illiberalism when his son was still a child, Edward Flower was a well-known advocate of emigration.[7] Despite returning to England, being apprenticed to a corn merchant and commencing a few of his own successful business ventures, Edward continually planned his own family's departure from England, a fact which was widely known throughout the district. Flower often received letters from other dissatisfied residents or simply those desirous of information concerning travel to North America and other destinations.[8] Early in his career, Edward seriously considered the family's departure for Australia. Years later, apparently less fond of the South-Pacific way of life, he travelled for six months in America in order to determine a desirable destination in the country where his father had been buried.[9] Like the brewery's proprietor and future managers, however, Flower's ales travelled well. Perhaps it was Edward's continued success in distant markets that convinced him to brew in Stratford for the remainder of his working life.

During these years, the brewery was in all respects a small family firm, and, as was common in this form of business, sons succeeded fathers into positions of management.[10] Succession, in Flower's case, was guaranteed with the birth of three sons, William Henry, Charles Edward and Edgar. Although William Henry, director of the Natural History Museum in London (1884-98), was encouraged to pursue a

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[6]Flower, *Great Aunt Sarah's Diary*, pp. 5-6.
[7]R. Foulkes, 'Edward Flower and the Shakespeare Tercentenary,' in *Warwickshire History*, V (1982), p. 74.
[8]SBTRO, DR 227/121. By the end of his career, Edward reached only Hyde Park, where he died in 1883; his wife, Selina, died the following year.
[9]Flower, *Great Aunt Sarah's Diary*, p. 6.
[10]For a more detailed description of the characteristics commonly associated with the family firm, see G. Jones and M. Rose, 'Family Capitalism,' in *Business History*, XXXV (1993); R. Church, 'The Family Firm in Industrial Capitalism,' in *Business History*, XXXV (1993); and S. Nenadic, 'The Small Family Firm in Victorian Britain,' in *Business History*, XXXV (1993).

scientific career, thus being spared a life in the brewery, his substantial loans to the firm, like those made by many other relatives and friends, stimulated the growth of the business and helped pay bills during periods when poor sales tried Edward's and his brothers' tempers. Moreover, despite rarely attending events at the brewery in the last decades of the previous century, Edward Flower's wife, Selina, had considerable influence over business matters during the brewery's first decades. In fact, no other owner's or manager's wife exercised anything comparable to her control over affairs at the brewery. For example, her husband's conservative approach to risk has been attributed to her resolute disapproval of debt. The firm's overdrawn accounts at Lloyds Bank in Stratford, a form of finance relied upon by many other businesses throughout this period, would, according to Selina Flower, inevitably lead to ruin.[11] Prior to incorporation, however, the bank overdraft was an important source of capital, as most customers, especially those associated with the firm's export trade, required months to settle their accounts with the brewery. Accounts in early summer generally looked less robust than they did at the end of a season of healthy retail sales and much warm weather. In general, given the senior family members' dispositions, it is not surprising that radical changes to production would have to wait until Charles and Edgar took control of the family firm.

Despite the limited number of risks taken by the Flowers during the brewery's early years, a revolution in transportation beginning in the mid-nineteenth century set the stage for a more dynamic period in the firm's history. Developments in rail transport provided possibilities for expansion into new and more accessible markets. The second generation of managers to emerge from the family appeared to understand

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[11]Flower, *Great Aunt Sarah's Diary*, p. 61. The reliance of brewers on overdrafts is discussed thoroughly in K. Watson, 'Banks and industrial finance,' in *EHR*, XLIX (1996).

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the benefits such services implied. In 1860, to celebrate the opening of a new line to Birmingham, railway offices in Stratford distributed free tickets to the town's residents. Among those on the inaugural trip was Charles Flower, along with all the brewery's clerks.[12] Over the years, his regard for rail travel only increased. Approximately two decades after travelling on the first train from Stratford to Birmingham, Charles became an important contributor to a scheme known as the Stratford-upon-Avon, Towcester and Olney Branch Railway.[13] The fact that Flower should have recognised the service's business potential early on is perhaps only natural considering he had run the brewery's export trade from a small office in James Street, Adelphi, London, early in his brewing career.[14]

In 1863, Edward Flower retired from the firm soon after having brought Charles and Edgar into partnership. Despite this change in the legal organisation of the business, and the retired couple's removal to 35 Hyde Park Gardens, London, it would be some years before Flower relaxed his control over the firm. Nevertheless, the changes in management indicated by the new partnership appear to have marked a fresh period in the history of the brewery, and the active roles both sons played in the brewery's management eventually convinced Edward Flower that the family business was in good hands. After Edward's departure from business, sales continued their steady increase, exceeding £40,000 in 1857 and totalling nearly £100,000 in 1866.[15]

Selina Flower, as in the past, remained more sceptical of the firm's success. Charles and Edgar, although no longer scolded at The Hill, the family's residence outside Stratford, along the Warwick Road, not infrequently received the odd

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[12]Flower, *Great Aunt Sarah's Diary*, p. 47.
[13]*Birmingham Post*, 12 August 1887.
[14]Flower, *Great Aunt Sarah's Diary*, p. 47; and SBTRO, DR 227/140
[15]SBTRO, DR 227/140

'violently worded memoranda' from Edward and Selina when not appearing to dedicate themselves fully to business.[16] Although the elders appeared united in a disapproval of their sons' participation in leisure and martial activities, such as the local hunt and militia, in which Charles played a founding role, Edward frequently apologised to his sons for any angry words exchanged during family quarrels. In fact, in later life, Edward appears to have got on quite well with his sons, despite the continuation of scoldings. After the first of many such incidents, it became clear that Selina had always been responsible for 'loading up the gun', while Edward had been made to 'pull the trigger'.[17]

Perhaps due to this pressure, business, following the new partnership in 1863, continued, to some extent, along established lines. The brewing facilities in Stratford still remained virtually unchanged from those built by Edward in 1831. While agencies in Leamington and Coventry, each with their own small sales staffs, had been established years before they were made partners in the firm, Charles and Edgar widened Flower & Sons' sphere of influence and set up a more distant agency along similar lines in Cheltenham in 1867. Subsequent changes, however, were more radical. While the brothers, like their father, wished to introduce another generation of Flowers to the firm, in the same year the brewery's Cheltenham branch began to solicit orders, two additional partners, John Tod Dickie and John Witters Dowson, joined Charles and Edgar in order to manage business interests which were rapidly becoming more widely diffused. Interestingly, the decision to admit non-family members to the brewery's management team appears to have been made with little hesitation by Charles, who, of the two brothers, would take the leading role at the

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[16]Flower, *Great Aunt Sarah's Diary*, p. 61.
[17]*Ibid.*, p. 48.

brewery. Had any doubts as to the men's abilities existed, these were soon dispelled as the firm's accounts continued to improve, so well, in fact, that, after only two years, production strained the capacity of the firm's old premises and the decision to build a new brewery was made.

As had been common among other family firms in the past, it appeared unrealistic to the Flowers that any manager should watch with 'anxious vigilance'over an investment that was not his own.[18] As a result, the dilemma of entrusting one's fortunes to strangers was solved by requiring all future managers to invest a portion of their earnings in the business and thereby become stakeholders. Despite the brewery administration's incomplete transformation to a form of management recognisable to a contemporary business community, the move improved the trustworthiness of managers, a matter of importance to a firm wishing to outgrow the limits inherent in the structure of traditional family firms. By introducing 'new blood' to management, Charles Flower ensured the appointment of new managers by his successors would be a far less agonising experience for the family. Moreover, as a result of such administrative changes, and the capital this generated, the firm's management at this time could actually finance further expansion.

On 18 March 1870, Flower & Sons' owners and managers hosted a dinner at the newly-constructed premises, along the Birmingham Road, on the northern edge of Stratford, to celebrate the completion of their second brewery. The buildings were erected by J. & G. Callaway, the Stratford builders, over more than five months and were three times the size of the firm's old premises. The fifty-quarter plant and its wide range of fittings were installed by a Frome-based engineer, named Oxley, while

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[18]S. Pollard, *The Genesis of Modern Management* (1965), p. 12.

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the entire project was carried out under the supervision of George Wilson & Company of Frome, who also advised several other brewers who had expanded their production facilities during these years.[19]

For the remainder of the nineteenth century, production continued to be based at two separate sites in Stratford.[20] The old brewery, where almost a third of production was carried out in a thirty-two-quarter plant, and the firm's administrative offices remained in the centre of town, alongside canals, once indispensable to the distribution of Flowers ale. As most of the brewery had been removed beyond Stratford's core, near the town's new rail lines, an elderly labourer regularly bicycled between the two sites during these years in order to facilitate communication and convey vital paperwork. This situation, although inconvenient, was tolerated due to the benefits the new brewery derived from its proximity to rail transport. A railway siding was erected on the firm's property, and the loading of casks and unloading of empties was carried out by the brewery's own labourers, which now numbered 130 men, most of whom resided in Stratford.[21] As the main brewery, on the other hand, was no longer located in Stratford, public viewings of the premises after each subsequent construction project gained importance, for they permitted residents to view the brewery, and thus maintained contact between the business and the town.

Such a public gathering again transpired four years after the construction of the new brewery. In fact, the celebrations arranged for 15 May 1874 were so grand that

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[19]*Stratford Herald*, 18 March 1870.

[20]Despite this unusual arrangement, Flower & Sons was not the only firm with 'a double-barrelled brewery and plant'. Production at Greene King was similarly divided, the brewery having had both forty- and twenty-five-quarter plants, as were those of Thomas Berry & Company in Sheffield and S. A. Brain in Cardiff; see Wilson, *Greene King*, p. 73; and Barnard, *The Noted Breweries*, I, pp. 273 and 471, respectively.

[21]SBTRO, DR 227/121. Discounts were given to breweries which did their own loading and unloading. According to the *Solicitors' Journal*, 10 September 1881, freight charges were approximately 1½ d. per ton per mile.

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many residents believed the firm had built a third brewery; in reality, the firm opened its 'Ponto', or fermenting room. Built by Messrs Naden & Sons of Birmingham, the extension added 140 feet to the brewery, which now measured 227 feet in length. The buildings were 100 feet wide, a portion of which reached a height of 54 feet. The total floor space exceeded 50,000 square feet and brought the planned brewery expansion to a conclusion; the entire project since its commencement in 1870 had cost the firm approximately £9000.[22]

Although not immediately used to its full capacity, the new premises allowed the brewery to produce approximately 4000 barrels of ale a week.[23] The brewing season, however, was generally restricted to between October and April.[24] This, in turn, encouraged early and efficient methods of estimating, a skill which came much later to other industries, in order that the brewery could meet the summer demand for their product.[25] Should staff have failed at this task, the cellars located at the firm's old buildings, combined with the new facilities, permitted the storage of 20,000 barrels, the majority of which comprised pale ale for export.[26] Additional ale in times of a shortage would come from breweries with extra stock with whom Flowers had entered into reciprocal trade agreements. Such arrangements had been made with Worthington & Co., the Burton brewers, in 1866 and with Courage & Co. of London in 1881.[27] Courage transferred the latter contract to Fremlins of Maidstone in 1886 due to difficulties relating to transport, as most ale reached their London brewery by

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[22]*Stratford Herald*, 15 May 1874.
[23]*Ibid.*
[24]SBTRO, DR 227/203-9
[25]*Ibid.*, DR 227/121. For a discussion of the development of estimating practices in the printing trade see E. Howe, *The British Federation of Master Printers* (1950);and J. Reinarz, *Labour and Management in the Midlands Printing Trade* (1994).
[26]*Stratford Herald*, 15 May 1874.
[27]Luckett, Flint and Lee, *A History of Brewing in Warwickshire*, p. 43; Gourvish and Wilson, *The British Brewing Industry*, pp. 83-4; and Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 545.

way of barges along the Thames. Flowers, however, continued to provide pale ale to small porter breweries in London, such as the Notting Hill Brewery, a firm with which it had formed close ties and into which it had invested considerable capital.[28] At one point Flower & Sons even contemplated taking over the brewery, but, instead, the troubled business was purchased by Charrington & Co. Ltd in 1909.[29]

While matters of transportation frequently created difficulties for their competitors, Flower & Sons' early success in the trade has been attributed to their distribution skills. An important component of Edward Flower's business, the firm's export trade, developed soon after the brewery was first established and extended very widely with some help from independent agents located in all the world's habitable continents. As the firm's archives proudly reveal, the brewery's ale developed a reputation in several foreign ports, long before the brand was commonly recognised north of Birmingham.[30] The brewery regularly shipped its products to agents and private customers in Madeira, Madras and Hong Kong, among many other distant destinations.[31] Rather than cultivate a few adept foreign agents, or set up their own remote offices, as was attempted by H. & G. Simonds, the Reading brewers,[32] Flowers relied on hundreds of dispersed customers, who each ordered an average of twelve hogsheads a year.[33] During the 1869-1870 brewing season, the firm had shipped 1515 hogsheads to various destinations, although the brewery also frequently provided customers with smaller quantities. Most of this trade was conducted by the firm's

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[28]During these years, the brewery was managed by J. Richardson, the brother of E. Richardson, Flower & Sons' shipping agent.
[29]Richmond and Turton (eds), *The Brewing Industry*, p. 98.
[30]SBTRO, DR 227/121
[31]*Ibid.*, DR 227/6
[32]K. Thomas, 'The Adventures of H. & G. Simonds Limited in Malta and East Africa,' in *Business Archives* (1991), p. 41; and Barnard, *The Noted Breweries*, IV, pp. 24 and 27.
[33]SBTRO, DR 227/6

export office staff in James Street, Adelphi until 1872, when Flower & Sons constructed its new London offices near Paddington Station at a cost of more than £9000.[34] In general, the export season commenced in November, and shipments continued until 1 July, after which date management would not guarantee the condition of their product to withstand the trial of sea-transport.[35]

Despite the firm's early success in establishing an export market, other less-distant markets gained importance during the years following Edward's term as the brewery's sole manager. In addition to the firm's Cheltenham branch, where a team of seven salesmen doubled sales between 1868 and 1873, Flower & Sons had agencies in Birmingham, where salesmen managed to double sales in an even shorter time span (1869 to 1873), Liverpool (established 1872), Wolverhampton (1869) and even Dublin (1874), where a team of four employees had difficulties justifying the expense of opening an office at all. Moreover, the brewery's original branches in Leamington and London both maintained high levels of sales, and, after remaining quite static for most of the 1860s, gradually increased their trade in 1872 and more dramatically thereafter (see Table 1).[36] Between 1870 and 1874 the total amount of ale produced in Stratford approximately doubled. The decision to expand production facilities appeared justified, as agents more successfully solicited the brewery's products in national markets.

The consequent growth in production, as well as sales, although permitting the new plant on occasion to produce near three-quarters capacity, again overtaxed the

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[34]SBTRO, DR 227/8. Some of the firm's export trade was handled by E. Richardson & Co., bottlers and export agents in London. Beer for export, on the other hand, was stored at Hoare's Brewery, located near the Metropolitan Railway at Paddington.

[35]*Ibid.*, DR 227/121

[36]*Ibid.*, DR 227/8 and 106. By this time, the firm's Coventry office had closed; sales in the town and its district, however, continued and were managed by the brewery's home office staff.

powers of the firm's managers. While this frequently created problems for entrepreneurs who wished to retain control of their firms using only family hands, Charles Flower, intent on working less than he had in the past, was quite comfortable with the thought of introducing new talent to the firm. After he returned to Stratford following a term managing the brewery's London offices, which were then entrusted to Mr E. Dix, Charles spent much of his time travelling between newly-established agencies in England, checking agency books, ensuring salesmen regularly travelled through designated districts canvassing orders and investigating any complaints. Moreover, he maintained control over the majority of the firm's correspondence. Rather than take on greater responsibility, or recruit additional unqualified family members, a practice which he openly discouraged, Flower decided to employ young hands, 'very able ones, to come in and join them in taking a share of the duty'.[37] In addition to Dowson and Dickie, the firm acquired the services of Stephen Moore of Lincoln, formerly an apprentice with the firm, who also spent some years in charge of production at the Notting Hill Brewery, London; Moore is first listed among the brewery's salaried staff in 1873, though he had settled in Stratford the previous year.[38] Near the same date, the firm acquired the services of Archibald Park, originally a distributor of Flowers ale in Madeira, in order to manage brewery offices at Birmingham and Wolverhampton. After having gained a knowledge of the manner in which local agencies were run, Park was provided yearly with a rail pass and took over Charles's tour of regional offices in England, as well as Dickie's periodic visits to Ireland.

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[37] *Morning Advertiser*, 8 May 1874.
[38] *Brewers' Journal*, 15 May 1901.

Meanwhile, closer to home, improvements were introduced to the Stratford brewery for more than a decade after its initial construction. One of the firm's six malt houses was rebuilt to suit the Galland-patented process of pneumatic malting in 1879, in order to save time, space and labour.[39] This was soon followed by the modernisation of the firm's mashing plant according to methods introduced to Charles Flower by a German brewer and engineer, Emil Welz, in 1881. New ice-making machinery, mash tuns and boiling plants at both the old and new breweries were also installed during the 1883-1884 brewing season. The following season, a Stopes-patented kiln, which facilitated the production of malt of a uniform quality, was installed in the brewery's third and largest malt house. Finally, as early as 1886, the initial infrastructure required to electrify the brewery, including a 1000-watt dynamo, was installed on the main premises, and ensured electricity would begin to play a more important role in production.[40]

Flower & Sons' interest in technological developments not only ensured that the firm's managers encouraged their brewers to apply the latest inventions to the brewing process, but also led them to play a larger role in the distribution of particular innovations. Having diversified broadly during his first years as a brewer, Edward Flower had concentrated almost exclusively on the production of pale ales since the 1860s; Flower gave up his wine and spirits business when son Charles joined the firm in 1863 and had ceased all trade in scrap-iron years earlier.[41] By the 1880s, however, foreign contacts and the firm's own experiments with various brewing machinery, convinced its managers that they had developed an additional strength and,

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[39]SBTRO, DR 227/9. Initially, the firm converted only one of its malt houses to the new system because of the cost of royalties and expenses, which exceeded £1000 a year while the patent on the Galland process lasted, see correspondence dated 19 July 1878, DR 227/106.
[40]*Ibid.* Electric lighting was first introduced to the brewery yard, offices and sawmill.
[41]*Ibid.*, DR 227/121. The brewers resumed their wine and spirit trade in the twentieth century.

consequently, a new direction in which to expand. Impressed with an innovative mashing apparatus manufactured by Emil Welz of Breslau, Flower & Sons entered into negotiations with the brewing engineers, Pontifex & Wood, to produce the German firm's machinery in London.[42] As Welz's sole agents in England, Flower & Sons hoped to take a leading role in the distribution of mashing equipment, which had gained importance due to legislative changes introduced at the beginning of the 1880s and was beginning to be described by many brewers as 'the greatest improvement in the modern art of brewing'.[43]

Despite the successful performance of the firm's own mashing plant, little else during this venture worked in the brewery's favour. A second apparatus, which was intended to serve as a demonstration model to be viewed by brewers interested in Welz's methods of mashing, was damaged during transport from Germany.[44] Although repaired and erected in Stratford with the help of a skilled mechanic sent by the Breslau firm, the inside of the machine soon became worn. Moreover, the managers noticed several screws holding the contraption together had rusted through only a month after it had first been put into operation. Nevertheless, some interest in the new method was shown by Mr William Greatorex of the Neptune Brewery, Manchester, who requested particulars relating to the self-acting mashing plant and arranged to view the foreign-engineered equipment in Stratford. When the machine did not work as well as described, and even broke down on several occasions, Flower & Sons' only serious customer decided against adopting Welz's invention. Unable to report any sales, Flowers wrote to the German engineer and described how difficult it

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[42]SBTRO, DR 227/109
[43]Barnard, *The Noted Breweries*, I, p. 321. See also Chapter Two, p. 101.
[44]SBTRO, DR 227/109

was to 'induce Brewers to put up new apparatus', and requested more time to convince other industrialists of the machine's advantages.[45] Apparently this was out of the question, for, shortly afterwards, Flowers wrote to Pontifex & Wood describing the unsatisfactory way in which they had been treated by Welz, gave up all attempts to import brewing apparatus and concentrated on that at which they were best.

Despite Flower & Sons' international connections and a desire to ship their ale throughout the world, the brewery's most important customers, along with their smallest rivals, had always been situated locally. Given its agricultural traditions and fruit-growing regions, Warwickshire was home to a number of home brewers and wine makers. While evidence suggests the brewers occasionally regarded this trade as a hindrance to its own, had the firm not supplied approximately 300 cottage customers with malt to brew in winter, few would have purchased the brewery's products in spring and summer, periods when most amateur brewers ceased to produce their own ale.[46] Moreover, despite the difficulty of measuring the success of temperance efforts, arguments advanced by local teetotallers do not appear to have halted the brewery's advance during this period. Although often keeping an eye on temperance meetings, if not actually attending them, Flower & Sons' owners would always be able to rely on strong sales in Stratford and its environs.[47] Among its most important customers were many local families, including several farmers who continued to provide ale to their labourers despite the passage of legislation that discouraged this practice in the early 1870s.

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[45]SBTRO, DR 227/109

[46]*Brewers' Journal*, 15 August 1899; and 15 September 1899. For a thorough survey of rural and country-house brewing, which refers to the practice in Warwickshire, see P. Sambrook, *Country House Brewing in England, 1500-1900* (1996).

[47]*Stratford Herald*, 21 November 1890. Of the firm's directors, Archie Flower regularly attended and participated in the Church of England Temperance Society's meetings.

In spite of the persistence of orders from faithful agriculturists, most individuals in Flower & Sons' home market obtained their ale from public houses. Although some houses in Stratford continued to brew their own beer in the early nineteenth century, their numbers steadily decreased as the public began to demand a more stable, commercially-brewed ale.[48] A regular outlet for the brewery's ales was guaranteed as early as 1836 when Edward Flower 'tied' a local public house to the firm. A loan to the Union Tavern in Stratford guaranteed the owner sold only 'Avon Ales', the name by which Flower's ale was then commonly known.[49] In the last years of the 1850s and most of the 1860s, the practice of tying trade by guaranteeing mortgages or providing loans steadily increased. Almost all of the brewery's early tied houses were located in Stratford. One of the first was the 'White Lion' in 1858. A year later, arrangements were made that only Flower's products would be sold in the Golden Lion Hotel. Although the brewery had not directly controlled its own wine and spirit trade since the early 1860s, in exchange of a fixed commission, Flower & Sons sold the products of other firms in order to supply a full range of alcoholic beverages, mineral waters and even tobacco to its houses.[50] In 1863, such an agreement was reached with the proprietors of the 'Rose & Crown'. A year later the 'Green Dragon' in Arden Street, which would host many of the firm's celebrations in later years, was purchased outright from Charles Brett. When licences were restricted by the Wine and Beerhouse Act of 1869, and properties became more valuable, Charles and Edgar, like

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[48]The Windmill Inn in Church Street, Stratford continued to brew and sell its own ales into the twentieth century when it was purchased by Flowers. The *Stratford Herald*, 11 September 1903, carried an advertisement for its home-brewed ales, available in firkins, kilderkins and barrels.

[49]SBTRO, DR 227/121

[50]*Ibid.*, DR 227/110. In Stratford, the brewery's wine and spirit trade was guaranteed to R. M. Bird & Company. In exchange, Flowers received 5 per cent of cash collected and an additional 5 per cent of any orders obtained by their own travellers. Bird & Company, on the other hand, were responsible for all breakages, loss of casks, or bad debts. In addition, they were to send duplicates of all invoices to Flowers and promote the brewery's ale to their own customers.

their competitors, more regularly acquired public houses.[51] By the end of the 1879-1880 season, however, the brewery had still acquired only some twenty houses (see Table 4).

Many of the firm's first public houses were purchased individually out of profits, and not always for their commercial value. Ever the Shakespeare aficionado, Charles Flower rarely appears to have missed an opportunity to buy licensed premises associated with the Bard. The Shakespeare Inns in Welford-on-Avon and Harvington were both purchased during the period he was connected to the firm. Moreover, both were acquired individually from their previous owners. Sales of such premises were regularly advertised in various periodicals, including brewing journals. At times, news of a house's impending sale travelled more quickly to managers, especially if it lay near the brewery or was already included among the firm's customers.

Despite still being purchased at auctions within a decade of each other, the Shakespeare Inns in Welford and Harvington marked two distinct periods in the administrative history of the brewery. The first, that in Welford, was purchased during the period when the firm was still a partnership, while the house in Harvington was added to the firm's collection of properties after it had become a limited liability company. Incorporation, among its many benefits, provided the capital many breweries required in order vastly to increase their tied properties.[52] As a result, the Shakespeare Inn at Harvington was among numerous purchases made during these years. Acquired in 1888, shortly after the firm became a limited liability company, it was included among approximately fifteen other acquisitions made in that year. The property in Welford, on the other hand, was one of four houses purchased in 1881.

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[51]Vaisey, *The Brewing Industry*, p. 139.
[52]Mathias, 'Brewing archives,' in Richmond and Turton (eds), *The Brewing Industry*, pp. 25-6.

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The advantages of limited liability extended beyond ensuring that those individuals involved in a business venture were legally responsible to only a limited degree for the debts their members amassed; for brewers it was a reliable way to raise a large amount of capital in order to fund expansion. Flower & Sons' early growth was financed out of profits, an overdraft supplied by Lloyds' Stratford branch and numerous loans deposited by customers, salaried workers and their relatives. Limited liability brought the funds with which managers could finance further growth. Not only would large injections of capital permit the purchase of additional property, but a swelling real estate portfolio made it easier for many brewers to increase the credit they already received from banks in the form of an overdraft, the granting of which became easier when a firm deposited the deeds to their property as security.[53]

The success of several large share offers within the industry, and especially that of Guinness on 22 October 1886, finally convinced many English brewers of the advantages of incorporation. Only two years after Guinness's successful incorporation, Flower & Sons registered themselves for limited liability. The nominal capital the company was entitled to offer for public subscription amounted to £350,000, divided into 17,500 ordinary and 17,500 preference shares of £10 each.[54] Of these, 12,506 ordinary and 12,500 preference shares were immediately issued and fully paid up. The firm also offered £100,000 in 4 ½ per cent first mortgage debentures publicly, being only half of a total authorised issue of £200,000.

The finances of the company were entrusted to individuals long familiar with the company. The first directors included Edgar, Archibald and Richard Fordham

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[53]This strategy also proved advantageous for several British multiple-retailing firms a generation later. For example, see P. Scott, 'Learning to Multiply,' in *Business History*, XXXVI (1994), p. 24.
[54]SBTRO, DR 227/121; *Stratford Herald*, 9 March 1888; *Brewers' Journal*, 15 March 1888; and *Financial News*, 2 March 1888.

Flower, Stephen Moore, Archibald Park and the firm's new head brewer, Francis Lawrence Talbot. According to the incorporation notice, property and assets, including freehold and leasehold properties, amounted to £188,267. Total liabilities, including plant, the firm's stock of ale, hops, malt and barley, loans, book debts and cash in hand amounted to £425,372. While one can hardly compare this with Guinness's £6m. share issue, in 1888, Flower & Sons Ltd was one of the largest breweries in the West Midlands, and certainly one deemed to have a great future by many in the trade.

New methods of raising capital not only increased the number of licensed houses firms bought, but led many to sink greater capital into property in general. After incorporation, all forms of land purchases grew noticeably, for such a strategy permitted a firm not only to enlarge its market, but made borrowing easier. Flower & Sons' board appeared less discriminating than in former years when making acquisitions. Their collection of properties included several cottages in nearby villages, fields which were let to local farmers and even Aston Villa football grounds.[55] No different from other national brewers in scrambling for property during these years, Flowers' board bid for nearly every available licensed property which came up for sale in the parishes surrounding Stratford.[56]

While many public houses were still acquired individually, as was common in previous decades, many were now purchased in parcels. This was done primarily by taking over entire breweries, in order to acquire the licensed houses in their possession. By purchasing small local breweries, Flower & Sons, like many other

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[55]SBTRO, DR 227/110 and 170. Besides the Aston Villa football grounds, the real estate comprised the Holte Hotel and gardens, which adjoined the property, and a hall, used for many years as a mineral water plant.

[56]Gourvish and Wilson, *The British Brewing Industry*, p. 267.

English breweries during this era, added substantially to their tied estate. While made to increase the company's trade, these purchases at the same time decreased local competition. Given the proximity of Flowers' acquisitions to their main brewery, and the increased costs entailed by decentralised production, additional plants were rarely used for brewing, which continued to take place in Stratford. Some disused breweries were utilised as warehouses or converted into agencies, as occurred in 1896 when Flowers bought Messrs Alfred Thomas's Caudlewell Brewery, a ten-quarter plant in Shipston-on-Stour, for £28,250 in order to acquire twenty-six public houses.[57] Other facilities were part of more adventurous exercises. For example, when the brewery hired Cheltenham brewer Edward Pole to be an agent in that town, Flower & Sons took over the management of his brewery and converted the premises into a bowling-alley at a cost of approximately £20.[58] Whether the project became a successful addition to leisure services in Cheltenham is unknown, for the firm's managers severed their ties with Pole before its completion.[59]

Despite the apparent success of the years which immediately followed incorporation, the future of the brewery was by no means secure in the days preceding its successful share issue. Only a year earlier, Charles and Edgar had been 'anxious and disturbed' about the brewery.[60] Since 1883, income returned from the firm's agencies had been declining, despite lower raw material costs.[61] Only those at Cheltenham, Liverpool and London recorded any positive growth. Sales in Dublin and at the newest agencies in Castlebar and Belfast did not recover the costs of office administration. Consequently, the premises in Belfast closed in May 1885, followed

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[57]*Stratford Herald*, 3 July 1896; and *Brewers' Journal*, 15 June 1896.
[58]SBTRO, DR 227/121
[59]See Chapter Four, pp. 172-3.
[60]Flower, *Great Aunt Sarah's Diary*, p. 103.
[61]*Brewers' Journal*, 15 January 1887; and SBTRO, DR 227/18

soon after by those in Castlebar, while Dublin's salesmen somehow managed to remain employed until 1892, a year of general depression in the brewing trade, despite never returning more than £1000 a year for more than a decade.[62] Immediately after closing their Belfast office, Flower & Sons attempted to revive sales by expanding their business in Bristol. Sales there, however, did not surpass those obtained in Belfast, and the agency closed two years later. Attempts to establish trade in the vicinity of Kidderminster, soon after incorporation, were more successful, perhaps due to Francis Talbot's familiarity with the district, but did not make up for the loss of sales which resulted from the closure of the brewery's Manchester operations in 1889, after it was discovered that the family responsible for sales in the town had been withholding payments to the firm for many years. Moreover, as became a common pattern among English brewers, no further attempts were made to develop the firm's export trade which remained scattered and hardly paid enough to justify transporting small quantities of ale great distances.[63] Since incorporation, export sales rarely totalled more than 5000 gallons, and declined thereafter as many more breweries were established in foreign territories (see Table 5).[64] By 1895, export sales amounted to an embarrassing 12 hogsheads and never again recovered. In general, during the five years preceding limited liability, total sales had decreased by more than 8 per cent.[65] According to Charles's wife, Sarah, the two managers, like their father years earlier, did not know whether to abandon the enterprise or retain openings for Edgar's sons,

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[62]SBTRO, DR 227/57. Although brewing materials were available at moderate rates, the *Brewers' Journal*, 15 January 1893, describes the year to have been characterised by a decline in trade, as well as the value of ordinary shares.
[63]Gourvish and Wilson, *The British Brewing Industry*, p. 25.
[64]SBTRO, DR 227/44. After 1892, Flower & Sons had only a single export customer in Freemantle, near Perth, Australia; by 1896, the brewers had shipped their last ale to Australia.
[65]*Ibid.*, DR 227/18 and 57

Archie and Richard Fordham.[66] Only the willingness of a new generation convinced the family to continue in their predominant line of business.

A third generation of Flowers did not need to be convinced to join the family firm. Edgar's eldest sons, Archie and Richard Fordham, appeared eager to manage a portion of their predecessors' workloads after amalgamation. Of the two, Archie would eventually assume the top position at the brewery. From a relatively young age he quickly established himself as one of the rising stars of the industry in the Midlands. Soon after completing his studies at Cambridge, Archie presided at meetings held by the Licensed Victuallers' Society's Birmingham branch. In an article describing the events which transpired at the society's seventy-second annual dinner, Flower was described as 'one of the most eloquent and active leaders connected with the wholesale branch of the trade,' and, his speeches, like those of his uncle, Charles, upon whose career he appeared to model his own, were 'marked by breadth and originality of thought'.[67] Although his leadership qualities were apparent from the moment he was made a director, his authority at the brewery only really began to increase after his brother, Richard Fordham, was killed during the war in South Africa approximately a decade later.

Despite an increase in property purchases, incorporation changed little at the brewery. The period of growth initiated by Charles and Edgar, although feared to be over, unlike the firm's export trade, revived. A reduction in staff at various agencies reduced expenses, without affecting sales.[68] Moreover, negotiations at the brewery

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[66]Flower, *Great Aunt Sarah's Diary*, pp. 103-4. Despite these difficulties, Charles Flower still found time to pursue his literary interests. His modest contribution to the burgeoning field of nineteenth-century Shakespearean studies includes *Shakespeare on Horseback* (1887) and *Shakespeare No Dog Fancier* (1890).
[67]*Sportsman*, 24 May 1897.
[68]SBTRO, DR 227/110

were still guided by the elder brothers. While Charles chose to retire rather than join the new board of directors, Edgar remained in the brewery's employment for another fifteen years. Although the firm purchased approximately two dozen additional public houses in the two years proceeding limited liability, the brewery continued to rely a great deal on free trade as it had in the past. Furthermore, investment in the brewing plant resumed, based on strategies introduced in the early 1880s. As much of the machinery at the brewery was little more than a decade old, the directors could turn their attention to the brewery's most important natural resource. In order to ensure the quality and supply of the firm's water, a new well was sunk in 1895.[69] While the feat was described as novel, the project was carried out by a new generation of managers, whose membership on the managerial team had also been one of Charles's and Edgar's most important innovations.

One of the newer members on the company's board, well known to the London trade due to the role he played in brewing societies based in the capital, was John Pritchard, a native of Stratford and son of local surgeon, Dr Arthur Pritchard. On the occasion of his becoming a director of the brewery in 1897, after working his way up from the cask department and having successfully fulfilled the duties associated with managing the firm's London office, which he had joined in 1869, members of the trade assembled at the Hotel Cecil in London, where Pritchard was presented with 'a handsome testimonial engrossed on vellum and framed in gilt,' a silver ink stand and salver and a cheque for £150 to be used in placing a stained glass window in Holy Trinity Church at Stratford in memory of his parents.[70] Despite the gains made by

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[69]*Brewers' Journal*, 15 May 1895; and 15 December 1895.
[70]*Licensing World and Licensed Trade Review*, 13 March 1897; *Brewers' Journal*, 15 January 1897; and 15 March 1897; and P. Wainwright, *The Windows of Holy Trinity Church* (1989), p. 8. The window, with its overt medical imagery, can still be viewed in Holy Trinity, Stratford.

Pritchard on this occasion, the brewery had benefited from his service over a thirty-one year period. According to members of one of London's largest trade protection societies, those connected with the gentleman were ensured of 'victory and success'.[71]

Another familiar face to join the team of directors at the brewery was Gilbert Thwaites. Thwaites was the nephew of Daniel Twaites, M.P. for Blackburn and owner of the Eanam Brewery, later registered as Daniel Thwaites & Co. Ltd (1897). Instead of joining his family's firm, however, Thwaites took the seat on Flowers' board offered to him a year before Thwaites & Company became incorporated. He was in many ways a natural managerial candidate for he had completed an apprenticeship with the brewery and served several years as a member of Flower & Sons' clerical staff in Stratford. While admitting Thwaites to the board denied his talent to other firms, it also insured the Stratford brewery of additional funding. As had been common in the past, a manager accepting a seat on the board also involved his taking a greater stake in the company. In addition to being made a director in 1896, Thwaites was issued with 2500 ordinary shares, worth £25,000.[72] Although he would have preferred simply to collect dividends, which averaged 7½ per cent for the first three years after incorporation and approximately 5 per cent thereafter, given his education and familiarity with the firm, Archie's offer to Thwaites was made in order to acquire his services and thereby reduce his own work load.[73]

In addition to Thwaites's shares, the firm issued an additional £150,000 in 4 per cent debenture stock, being the remainder of the securities not yet offered to the public, including £50,000 of old debentures converted into new 4 per cent stock after

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[71]*Licensing World*, 11 March 1899.
[72]SBTRO, DR 227/110
[73]*Ibid.*; DR 227/104; and *Brewers' Journal*, 15 August 1891.

their first redemption.[74] Thereafter, the brewery fixed its overdraft with Lloyds at £60,000.[75] Within a year this was again increased to £100,000, providing the firm's management with capital to fund further expansion.[76] More importantly, these additional funds were raised without the firm's having to deposit any of its deeds as security.

Flush with capital, the firm's management wished to take part in what would be described by historians as an early period of brewery mergers.[77] Attempts made by Flower & Sons to purchase another brewery, however, continued to be frustrated. In December 1896, the board concluded negotiations concerning the sale of the City Brewery in Oxford when the firm's owners refused Flowers' offer.[78] Nevertheless, attempts to expand southward within Flowers' 'immediate neighbourhood' continued for another year.[79] When word reached the brewery that Henry Larder, 'an old friend of [Archibald's] grandfathers' and owner of the nearby Little Compton Brewery, was considering the sale of his business, the board exploited the friendly relations which had existed between the families, and, within a year, negotiated their second takeover.[80] Others followed. Additional breweries purchased at the turn of the century included the Tavistock Brewery Company Ltd of Tavistock, Devon, in 1899, and J. O. Gillett's Swan Brewery, located in Moreton-in-Marsh, Gloucestershire, in 1900.

In addition to purchasing property outright, the board spent much of their new capital securing the loans of licensed property in London. These stood at £5000 in

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[74]*Stratford Herald*, 11 June 1897; and *Brewers' Journal*, 15 August 1891.
[75]SBTRO, DR 227/110. The request was made in a letter written by company secretary Charles Lowndes and is dated 19 November 1897.
[76]*Ibid.* This is the limit stated in a letter written by Archibald Flower to John Pritchard dated 13 May 1899.
[77]K. H. Hawkins and C. L. Pass, *The Brewing Industry* (1979), p. 41; and *Brewers' Journal*, 15 October 1896.
[78]SBTRO, DR 227/110
[79]*Ibid.*
[80]*Ibid.*; and DR 227/104

1885, at a time when London sales exceeded £60,000. Soon after, however, in 1890, when Pritchard replaced Dix as office manager, the policy was pursued more aggressively.[81] By the end of the nineteenth century, London loans stood at more than £127,000. Freehold and leasehold properties were valued at approximately £350,000 (see Table 6). No longer subject to Selina Flower's doubts and criticisms, the firm's managers were convinced their risk would not only bring them success, but make Flowers a nationally-recognised brand. Their confidence grew as sales in London continued to grow, outpacing those of all other agencies. This period of growth reached a peak in the late 1890s, and justified further expenditures in order that the brewery could tap into what proved to be a lucrative market, managed by one of the trade's most respected figures, John Pritchard.

The brewery's successful growth in London mirrored its performance in Warwickshire in the 1870s. Albeit the population of the county steadily increased during the last half of the century, the rapid rise in Flowers' sales during this decade is more impressive when it is realised that the national market for alcoholic beverages had peaked in 1878.[82] Expansion after this date often occurred at the expense of the firm's many competitors. This once again appeared to be the case in the 1890s. In surviving letter books, directors claim that, in certain regions of London, Flowers had 'ousted Bass completely'.[83] Such triumphs appeared to suggest the firm would soon be ranked alongside the nation's most successful breweries. By this time, the

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[81]*Brewers' Journal*, 15 July 1909.
[82]Gourvish and Wilson, *The British Brewing Industry*, p. 601; and A. Webb, 'The Consumption of Alcoholic Liquors in the United Kingdom,' in *Journal of the Royal Statistical Society*, LXXVI (1913), p. 209.
[83]SBTRO, DR 227/110. A growth in beer sales in London, however, can not be attributed entirely to Flower & Sons' particular business strategy. Interestingly, according to the *Brewers' Journal*, 15 June 1899, certain houses in the capital during this period boycotted Burton beers. These factors permitted a number of firms, such as Flowers, to gain access to what was ordinarily a very competitive market.

company's directors no longer appeared to concern themselves with the performances of smaller competitors. Instead they collected statistics which allowed them to monitor the affairs of industry giants.[84]

In spite of capturing a healthy share of London's pale ale trade by the end of the nineteenth century, Flowers' agents in the provinces performed less well than those in the capital. Although the brewery dominated the market within a twenty mile radius of Stratford, and had established a strong record in London, especially in the West End, few other agencies experienced the sort of growth demonstrated by the firm's main offices. Only days after the brewery's directors could boast that their product had displaced Bass in many London outlets, Archibald Flower reprimanded publicans at their Cheltenham houses for serving competitors' products. On 9 June 1899, he advised Mr Hart, a hotel manager, to refrain from supplying his customers with Ind Coope bottled beer, which Archie believed to be 'quite second to ours'.[85] Not surprisingly, such episodes only helped convince Archibald Flower of the need to tap the seemingly inexhaustible London market should the brewery continue to prosper.

The decision to concentrate on the London market, although justified by transport arrangements, storage facilities, staff and especially sales, could not have come at a worse time. As early as 1899, in a letter to Pritchard, Archie Flower expressed his concern regarding the continued increase in London loans; this had worried London brewers much earlier.[86] Furthermore, Archie believed that many of the loans granted by Pritchard were 'shakey'. Two months previous to this correspondence, Archibald Park, after completing a tour of the firm's offices, had

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[84]SBTRO, DR 227/121
[85]*Ibid.*, DR 227/110
[86]Gourvish and Wilson, *The British Brewing Industry*, p. 135.

notified Flower that Pritchard had neglected to inform the directors of several 'shakey' loans, and, instead of rectifying the situation, continued to request that loans be made available to publicans whose accounts were long in arrears. Not surprisingly, in response to Archie's rebuke, Pritchard again requested that additional funds be made available to a long-indebted customer. A payment of £14,000, returned by Pritchard only two days after being cautioned by the directors, appeased Archie, but proved only to delay the inevitable. Nationally, Flowers' loans already exceeded £340,000. One publican alone had £16,000 of the brewery's money.[87] By granting any further loans the directors would only put the firm beyond the limit granted by Lloyds. Moreover, Archie Flower had informed the bank's manager in Stratford, Mr S. F. Ellis, that the firm would soon be in a position to reduce the brewery's overdraft.

Despite staff expending the greatest efforts to improve business in the London office, sales in the capital appeared static, and even began to decline in the first year of this century. Given this lag in sales, Pritchard deposited funds in the firm's London account only infrequently. By July 1900, the number of orders obtained by the office had fallen. The expense of running the agency only increased as a desperate staff canvassed its district more regularly. Unlike the debts accumulated by their customers, Flowers' bills were to be paid promptly. Therefore, by the end of this season, the directors appeared to have no alternative but to sell some of the firm's less-essential property to acquire much-needed capital, for the brewery's other agencies were not performing remarkably well either. Archie immediately commenced negotiations with Ansells, the Birmingham brewers, who had shown an interest in the brewery's Aston Villa property. After furnishing the brewers with the accounts of the mineral water

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[87]SBTRO, DR 227/110

factory located on the property, along with the usual sales particulars, however, his Birmingham rivals no longer appeared enthusiastic. Nevertheless, the firm advanced an offer, which Flowers, although anxious, regarded as not 'sufficiently tempting'.[88] Although negotiations between the two firms continued for the remainder of the year, these came to nothing. In the meantime, Archie could only request that Lloyds maintain their overdraft at its current limit.

While the terms offered by Lloyds until the beginning of the twentieth century had been unusually generous, the bank's regional office in Birmingham judged the increase in the brewery's overdraft to be an unnecessary risk. However, after having contacted the brewery's directors and suggested modifying the conditions governing the loan, the bank's representatives were informed that the firm's board was unable to reduce the amount. Although the bank eventually allowed the limit at 4 per cent, the overdraft was now to be guaranteed by the deposit of deeds representing properties valued at £75,000. This reduced the firm's secured overdraft to £25,000, which Archie quickly negotiated be increased to £50,000, then, soon after, to £75,000 in order to avoid a further issue of debentures, which both Flowers and Lloyds agreed was undesirable at that time.[89] Despite wishing to remedy their overdrawn accounts, the board of directors did not regard their troubles to be exceptional, for they believed the trade slow-down would affect them only temporarily. In general, they assumed trade, though momentarily slow, was still increasing. Moreover, an overdraft provided management with flexibility, for they 'wished to be prepared for emergencies'.[90]

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[88]SBTRO, DR 227/110

[89]*Ibid.*

[90]*Ibid.* This was conveyed to the bank's Birmingham office by Archie Flower in a letter dated 3 November 1899.

Although the anticipated boom in trade did not materialise, as if by premonition, the brewery's first real emergency did. On the morning of 2 December 1899, a fire destroyed most of the firm's No. 6 malt house. An adjoining building containing barley, malt and some casks of ale was also badly damaged. Although workers managed to salvage some supplies, more than £3200 worth of materials were lost. Moreover, the firm was short of a gas engine, weighing machines, not to mention shovels, baskets and other malting utensils. The total damage caused by the blaze was estimated at over £14,000.[91] Although the brewery was insured by the County Insurance Company, a confusion in the order of malt houses, which were not consecutively numbered, led Flower & Sons to incur losses of £10,000 over and above the amount stipulated in their policy.[92]

Although disrupting production for two days in December, the fire did not interfere with the remainder of the brewing season. The combined capacity of the two plants permitted the firm to produce enough ale to satisfy existing demand. Furthermore, the damaged buildings were immediately scheduled to be rebuilt by Stratford builder John Harris in the spring. Nevertheless, the brewery was faced with the burden of additional heavy expenditures. The directors had decided to acquire several new public houses in Birmingham to off-set the continued losses they suffered in a sluggish London market. Business in 1900, however, proved difficult and a complete recovery in trade remained elusive. In the annual report issued by the firm in that year, directors blamed a sizeable drop in profits on an increased beer duty, income tax and the war in South Africa, though the contamination of certain ales in

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[91]SBTRO, DR 227/110. The details of the damage and claim are recorded on several pages in the firm's letter books. The *Brewers' Journal*, 15 December 1899, on the other hand, claimed the fire caused £20,000 worth of damages.
[92]*Ibid.*

Manchester, as a result of arsenic contained in brewing sugars, undoubtedly provided brewers with considerable negative publicity.[93] Moreover, although all brewers faced higher material costs and increased duties, the war's effect had direct repercussions on the firm's organisation, for it had also claimed the life of Richard Fordham Flower; Richard's seat on the board was offered in unusual circumstances to Theodore H. Lloyd of Bletchingley, near Reigate, who had been an apprentice at the firm four years earlier.

The next year saw no recovery in the London trade; Flower & Sons' profits had again diminished, but the firm was able to renew its overdraft with Lloyds at conditions deemed favourable by the directors. Nothing else positive occurred in 1901. Early in the year, the brewery lost the services of another long-serving member, Stephen Moore, who had been with the firm for thirty-six years. Moreover, his memory was denied any prolonged mourning due to the financial implications of the death. Over the years, besides acquiring 520 ordinary shares at £10 each, Moore had deposited more than £7300 with the firm, which had now to be transferred to a drawing account in order that the funds could easily be withdrawn by the brewer's family members. As conditions appeared to become more uncertain almost daily, Archie Flower wrote to Pritchard in London and demanded he make an effort to 'get in a good account' and deliver the 'long promised cash'.[94] The firm needed to make payments totalling £17,000 at the end of June, followed by interest on its 4 per cent debenture stock at the end of July. Unless Flower received his promised money, some

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[93]SBTRO, DR 227/104. Directors of the Holt Brewery, Birmingham, for example, believed the arsenic scare had led many workers to give up beer consumption. According to the firm's chairman, the increased consumption of spirits was 'extraordinary', see *Brewers' Journal*, 15 March 1902.
[94]*Ibid.*, DR 227/110

of the firm's best loans would have to be called in, for, as was made very clear in a correspondence dated 8 May 1901, 'we must have the money'.[95]

Following a general recovery in provincial sales the next year, and receiving a string of timely personal loans deposited by office staff, the Flower family and friends and even several local publicans, the brewery was able to cover all immediate operating costs for the remainder of 1901 and again in 1902. In the first week of February 1902, the board was pleased by news from Lloyds that its overdraft would be renewed according to conditions set the previous year, but only if the total amount were reduced by £25,000 by the summer.[96] This, however, required that sales recover, and the firm's London trade continued to decline. Moreover, provincial sales in general were not much better given an unusually cold summer.[97] Consequently, in July, the rate of interest on the overdraft was increased to 5 per cent.

After another less-than-prosperous summer, the drastic measures threatened by Archie a year earlier were finally carried out. Pritchard was told to contact the manager of the 'Swan', Sloane Street, and call in a loan of £12,000.[98] The desperate measures employed by the firm's management, however, ensured the firm's survival, for debts incurred during the preceding half year had increased, as trade in London's West End, where most of Flower & Sons' properties were located, collapsed. In discussions with Lloyds' Stratford manager at the beginning of 1903, Archie Flower stated that the brewery had adopted 'vigorous methods' and pressed for the payment of some large outstanding loans, but, given the stagnation of trade in London, the directors were finding it difficult to collect amounts sufficient to reduce their debt.[99]

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[95]SBTRO, DR 227/110. The emphasis is Archie's.
[96]*Ibid.*
[97]*Brewers' Journal*, 15 January 1903.
[98]SBTRO, DR 227/110
[99]*Ibid.*

To make matters worse, in the first months of the year it was discovered that the firm's accountants, Messrs Sharp, Parsons & Co., had made a serious error in the previous year's bookkeeping. The amount of £7,318 9s. 10d., which should have been charged to the Cheltenham office's expenses, was included in their debtor balances, thereby increasing profits by exactly this sum.[100] Not only did this raise the concern that dishonest employees could easily falsify brewery ledgers, but the board had to redraft their financial plan for that particular year, as it had been determined using the old, inaccurate figures.

The depressed state of affairs continued throughout 1903, a year of 'record rainfall',[101] and necessitated greater changes in the brewery's structure. The directors realised they had to reconsider their involvement in the nation's capital given the declining values of their London properties, many of which had been purchased at exorbitant prices during the 'boom' years at the close of the nineteenth century.[102] A prolonged dip in sales had made it inadvisable to pay a dividend on the company's ordinary shares, which had been regularly paid until this date.[103] If the brewery were to reverse this trend, it needed to avoid direct competition with brewers in the nation's capital and sever its ties with publicans in London. Consequently, these public houses, once regarded as indispensable to future growth, were now being abandoned, but still only slowly.

Despite a long, hot summer which proved good for provincial sales, depreciations and further losses in London practically absorbed profits in 1904 and

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[100]SBTRO, DR 227/110.
[101]*Brewers' Journal*, 15 January 1904. The poor weather affected not only consumption, but influenced the quality of brewers' materials.
[102]Knox, *The Development of the London Brewing Industry*, p. 90.
[103]SBTRO, DR 227/104

1905 (see Table 2).[104] Moreover, by this late period, other breweries that had invested heavily in the London market began to feel the affects of decline in this region and, consequently, stocks reduced to their lowest ebb since the major share issues of the 1880s.[105] Unlike their competitors, however, Flower & Sons faced additional losses due to conditions specific to the firm. Apparently having discovered investments which offered more generous returns, in 1904, family members surviving Stephen Moore notified the board of their intention to withdraw all the funds which the past director had deposited with the firm in the coming year.

At this point in the brewery's history, managers also began to feel the burden of legislation, which, in the more profitable past, had been regarded as no 'great grievance'.[106] During the financial crisis, however, the brewery clearly felt the strain of additional costs, such as those brought about by political intervention. The first such cost was the tax introduced by the government during the Boer War and which brewers continued to pay well beyond the cessation of hostilities in South Africa.[107] Another burden came with the introduction of the Compensation Tax in 1905, which was to reimburse brewers whose public houses were closed as a result of local option, by which a two-thirds majority vote of the ratepayers would allow them to reduce or even completely abolish licensed premises; Flower & Sons' first contribution to the fund amounted to almost £2000.[108] In general, since the 1899-1900 brewing season, trade among the nation's brewers had declined by approximately 12 per cent and some

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[104]*Brewers' Journal*, 15 January 1905.
[105]Gourvish and Wilson, *The British Brewing Industry*, p. 295; Hawkins and Pass, *The Brewing Industry*, p. 37; Wilson, *Greene King*, pp. 133-4; and *Brewers' Journal*, 15 August 1904.
[106]SBTRO, DR 227/121
[107]*Brewers' Journal*, 15 March 1905; and 15 November 1905. Birmingham brewers eventually met in November 1905 in order to oppose the war tax and demand the government for its immediate abolition. Despite their protests, brewers faced the tax until the outbreak of another war in 1914.
[108]SBTRO, DR 227/10 and 104

smaller firms, such as the Vale of Evesham Brewery, evidently more vulnerable than Flower & Sons, voluntarily wound up business during this difficult financial period.[109]

The desperate situation in which the directors found themselves late in the year inspired the board to extricate the firm from the London market more rapidly and accept greater losses. Loans in excess of £97,000 were written off in 1906 alone, and houses which had been worked at a loss with the hope of a recovery in trade were finally abandoned.[110] Furthermore, a reserve in the firm's accounts, amounting to £150,000, was established in order to provide against any further depreciation. Despite a general increase in trade (first apparent in the north of England)[111] after 1906 under Campbell-Bannerman's new administration, sales declined by £6000 the following year, approximately half of the losses being suffered in the provinces, the other in London.[112] That profits were higher was deceptive, for the directors had begun to sell off the firm's most valuable London properties, as well as the Aston Villa grounds.[113] Vital assets were surrendered in order to maintain technical solvency.

By 1908, the sacrifice was complete. Losses amounted to £346,327 5s. 5d., £210,000 of which was to be met by reducing issued share capital from £300,000 to £90,000.[114] A special reserve fund covered the remaining losses, except for £8,041 0s. 3d. Moreover, £10 shares of both classes (ordinary and preference) were reduced to £3 shares, and preference shareholders were to give up any claims to arrears of dividends up to 31 December 1908. The dramatic restructuring of the firm seemed to overshadow one of the biggest political events of these years. While Flowers were

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[109]*Brewers' Journal*, 15 January 1906; and 15 March 1906.
[110]SBTRO, DR 227/104
[111]*Brewers' Journal*, 15 December 1906.
[112]W. Page, *Commerce and Industry* (1968), p. 401.
[113]S. Inglis, *Aston Park 100 Years* (1997), p. 89.
[114]SBTRO, DR 227/104; and *Brewers' Journal*, 15 July 1909. According to the latter source, Flower & Sons' capital was reduced from £350,000 to £105,000 due to their London losses.

struggling to remain solvent, the industry had been shocked by the introduction of the Licensing Bill (1907). Brewers, however, were spared the immediate effects of this legislation when it was rejected by the House of Lords, but only after members of the trade organised dozens of mass meetings throughout the country and a 'monster demonstration' at Hyde Park to which Flowers, with every other brewer in the country, sent many of their employees.[115] Together, the two episodes would raise fears among the investing public. The confidence of investors, which had been so high in the late 1880s and early 1890s, had been seriously shaken. The directors expected the question of finance in the future would be one of increasing difficulty.[116]

By this date the worst was over. A year later and the crisis appeared to be behind the brewery. Despite the board's decision not to pay a dividend on ordinary shares, a full-year's dividend of 7 per cent was paid out on preference shares in 1909, and a balance of £5567 10s. 9d. could be carried forward in the board's report.[117] While the trade in London would not fully recover for another two years, Flowers had few remaining interests in the capital. This, however, did not prevent the legislation that was passed there from going unnoticed. Although promising to affect the trade less dramatically than the Licensing Bill two years earlier, the Finance Act of 1910 threatened firms that, like Flowers, were struggling economically in these years by increasing the duties on breweries and public houses and, consequently, making them more expensive to run.[118] Its passage, along with a sudden growth in working men's

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[115]*Brewers' Journal*, 15 August 1907; and *Stratford Herald*, 2 October 1908. Approximately 250 Stratford residents attended the rally in Hyde Park on 27 September 1908. Most were employed at the brewery and travelled to the event on one of the 170 special trains organised to bring demonstrators to London. According to the *Brewers' Journal*, approximately 125,000 people attended the demonstration.
[116]SBTRO, DR 227/104
[117]*Ibid.*
[118]Gourvish and Wilson, *The British Brewing Industry*, p. 293; and Knox, *The Development of the London Brewing Industry*, pp. 27-8.

clubs, which competed with brewers' licensed houses, reminded such brewers of their vulnerable state.[119] In consequence, Flowers sold its scattered properties in Stratford; its old brewing plant in the town centre was sold to Kendall's, the brewers' chemists, in order to pay increased licensing duties and concentrate production at the site constructed by the firm in 1870.[120] Together with this legislation and that passed and threatened between 1905 and 1908, these three episodes made the first decade of the twentieth century more difficult for the brewery. The fact that the events generated a considerable amount of correspondence, unseen in previous years, suggests it was only when faced with dire circumstances that Flowers took any real interest in politics. Although left with few interests in London, the firm's owners and management would continue to follow events in the capital with some interest.

Meanwhile, home sales remained stable, and even increased after the firm obtained a licence to sell beer from the brewery premises in quantities comprising at least one dozen pints to those customers not wishing to frequent public houses in order to purchase alcoholic beverages.[121] Residents regularly came to the brewery to purchase Flower & Sons India Pale Ale, Light Bitter Beer, Family Ale and Extra Stout. As in the past, Stratford remained the brewery's strongest and most reliable market. Moreover, in many ways, this regional dominance ensured the brewery's existence during these years.[122]

Conditions at the brewery and its administrative structure appeared less stable. Having lasted longer than anyone could have imagined, the crisis which had

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[119]*Brewers' Journal*, 15 January 1911.
[120]*Ibid.* At a meeting held at Stratford's Corn Exchange, Archie Flower claimed that, as a result of the chancellor's decision to raise licensing duties, Flower & Sons' directors had 'decided to close one of [their] two breweries in Stratford'.
[121]*Stratford Herald*, 3 April 1908.
[122]Strong local sales had permitted other provincial breweries to survive these especially difficult years of trade; see, for example, T. Gourvish, *Norfolk Beers from English Barley* (1987), p. 82.

decimated the firm's trade in London was managed from beginning to end by Archibald Flower. As a result, these years would change the brewery's management indelibly. Should one wish to divide the firm's history between 1870 and 1914 in two, 1888 would appear the logical dividing line, for to many it signified a revolutionary change in the way business was conducted in Stratford. Administratively, things appeared to have been changed radically by incorporation, but in practice, as was demonstrated earlier, much continued as it had in the past. The firm's first board of directors comprised primarily members of the Flower family and, despite his retirement, Archie's uncle still played an active part in the management of the brewery. Like his father, Charles continued to influence affairs at the brewery until his death in 1892.

The trade crisis which devastated the firm at the turn of the century, on the other hand, fundamentally changed the way in which Flower & Sons was managed. One of the more obvious changes caused by the decline in Flowers' trade at the beginning of the century was the way in which power at the brewery became concentrated. In an environment almost certainly characterised by panic at times, and uncertainty otherwise, duties formerly carried out by junior managers and the company secretary were rapidly monopolised by the firm's chairman, Archie Flower. The delegation of responsibilities to long-serving managers, a process initiated by Charles and Edgar Flower decades earlier, appeared to cease in the first years of the twentieth century. After several years of financial difficulties even some of the most basic items of correspondence, such as replies to apprenticeship enquiries, once again became the work of the firm's most senior member.

After 1908, Archie Flower continued to run the brewery autocratically. Just as a war-time government often extends the use of dictatorial powers into peace-time, Archie Flower refused to relax the conditions inspired by an economic emergency. Of course one could justify his measures, for it was his prudent policies which had brought about an end to the troubled times the brewery faced in the first years of this century. Extreme financial difficulties encountered early in his career seemed to call forth Archie's equally extreme leadership methods. Almost as soon as these difficulties had been overcome, however, another crisis, this time in the form of the First World War, seemed to necessitate a continuation of this autocratic managerial style. By the time peace came, the brewery would have endured almost two decades of unnatural economic conditions. Consequently, more than any other episode in the brewery's history, these troubled times and their effect on one man's leadership style essentially determined the firm's dominant organisational culture. Over a career lasting forty years, Archie Flower stamped his identity on that of the firm.[123]

Apparently, during his final years, Flower's grip on the firm never weakened. According to the firm's last chairman, even decades after having been faced with bankruptcy, Archie individually controlled the brewery's finances. Not a penny could be spent without his authorisation. He is remembered for having joked that his favourite form of management was by a committee of two with one away, he being the member remaining.[124] Few members of his board, however, would have appreciated this sort of humour, neither did members of his family, for his control over their actions was also almost complete. Not only was his daughter, Evadne Lloyd, placed

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[123]This, to a great extent, supports the idea that, above all, 'brewing management is about personalities', as is argued by Gourvish in *Norfolk Beers from English Barley*, p. 166. For an interesting account of the way in which a managerial culture was generated at another firm see R. Church, 'Deconstructing Nuffield,' in *EHR*, XLIX (1996).
[124]SBTRO, DR 730/11

on the brewery board in 'a rather autocratic way', but she was later given a seat on the council of the Shakespeare Memorial Theatre, founded and funded by her great uncle, Charles, in a similar manner.[125] Archie's reluctance to work as part of a team and his improvised ways of doing business, however, did not materialise in the first decade of this century; this aspect of his character was apparent prior to 1900. An incident recorded in the firm's correspondence books, as well as various local newspapers, concerning one of Flower & Sons' pubs in Birmingham, the 'Royal George', is revealing, for it highlights these traits in a young Archie Flower.

Altered beyond recognition, and nearly doubled in size during construction carried out in the last years of the nineteenth century, the pub's licence required renewal before a licensing committee in 1899. The firm's application, however, was refused before the house's plans were even viewed by the city's planning committee. According to committee member Arthur Chamberlain, Archie Flower had visited him prior to a scheduled hearing in order to gain the support of a licensing committee member before the case was presented before the other justices. According to the *Birmingham Post*, this was the first time a brewer had visited privately with a member in order to discuss trade interests.[126]

In his defence, Archie Flower claimed his approach to Chamberlain was not as dishonourable as was made out to be.[127] As evidence concerning the incident became public, many observers, like the brewery's director, realised that the city's justices intended to 'put the screw on' Flower to participate in a compensation scheme organised by Birmingham's brewers.[128] This involved the firm subscribing to a

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[125]SBTRO, DR 730/19
[126]*Birmingham Post*, 9 November 1899.
[127]*Birmingham Daily Gazette*, 13 November 1899; and *Daily Argus*, 11 November 1899.
[128]*Birmingham Post*, 10 November 1899. See SBTRO, DR 227/110 for Flower's interpretation of the incident.

company that bought up houses which were suitable for surrender, as no new licences had been issued in Birmingham since 1892 without the immediate surrender of another.[129] Yearly the group of brewers relinquished licences of houses unlikely to be renewed in hearings before the city's licensing committee. By doing so, its members would receive preferential treatment before the bench when required to appear before them for any given purpose. Despite the benefits of the scheme, however, the brewers were not always prepared to sacrifice a house in a particular vicinity, for the benefits in some cases would accrue to a non-member, such as Flower & Sons. Although he had considered cooperating with Birmingham's brewers, Archie Flower claimed threats from the committee's chairman, Arthur Chamberlain, had deterred him from joining the scheme. Whether or not this was true, the two argued in the pages of local newspapers for several weeks, and the case seemed to reach a stalemate. However, as Archie's opponent adopted a more aggressive manner, the tone of the reporting became distinctly anti-Chamberlain, and attention was drawn away from Flower's indiscretions.[130] Instead, the public demanded the licensing committee be reformed.[131]

Despite the fact that Flower's public reputation survived this incident seemingly untarnished, another correspondence contained in the brewery's letter books demonstrates Archie regularly cut his own path in company negotiations and frequently discussed crucial business items behind the backs of the firm's other managers. For example, although some of the directors were against selling all of the Aston grounds at the first sign of unfavourable trade conditions in 1899, Archie offered the entire property to Ansells due to his desire to develop the brewery's local

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[129] *Brewers' Journal*, 15 September 1892.
[130] In particular, see *Birmingham Daily Gazette*, 14 November 1899.
[131] *Birmingham Mail*, 22 November 1899.

and London trade further. Should the Birmingham brewery have decided against the purchase of the property, as they were to do until 1907, Archie requested the firm 'please say nothing', for the news of their negotiations would upset the other managers 'a good deal'.[132]

Such dealings, however, were no longer necessary after the first years of the twentieth century. To be fair, the new distribution of power at the brewery was not entirely engineered by Archie Flower. To some extent it was the result of natural circumstances, namely the deaths of the firm's most senior managers. Although rarely having taken a leading role at the brewery, Edgar Flower represented the last of the Flowers' second generation of brewers. His death brought Archie's period of apprenticeship to a clearly-demarcated end. The death of his brother, Richard Fordham, on the other hand, ensured Archie alone would inherit control of the family's investment. Stephen Moore's death, as well as increasing the brewery's financial burden in the early 1900s, represented another important leadership loss. As only Edgar, Archie and Stephen Moore had regularly attended directors' meetings each Friday morning, he became the sole survivor of the board's key members. By the time the brewery's finances improved, of the senior managers who had been with the firm in the nineteenth century, only Archibald Park remained, and his duties had been significantly reduced as he approached retirement age. Others, though much younger, were also becoming less active in brewing affairs. Gilbert Thwaites had wanted to reduce his active duties at the brewery from the moment he became a director. By the end of the first decade of the twentieth century, he managed to relinquish a number of his responsibilities until, like T. H. Lloyd, he was remembered only as an important

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[132]SBTRO, DR 227/110. The letter is dated 7 July 1899.

shareholder and rarely seen at the brewery. John Pritchard, on the other hand, could hardly have expected greater control at the brewery after his London office failed to prosper for approximately a decade. Moreover, by 1910, the future of the firm no longer relied to the extent it had on events in the capital. This left only Francis Lawrence Talbot, who, although well-instructed in brewing, knew far less about business. Talbot therefore preferred to be left to run the brewery, while Archie managed the firm's offices, agencies and determined company policy.

Not surprisingly, despite Archie's autocratic style, after surviving the crisis years of the early twentieth century, the firm's management became far more conservative than it had been previously. Although the brewery's operations in London had been virtually shut down, other challenges would present themselves. In general, trade conditions remained unfavourable due to the high cost of brewing materials and a string of 'damp sunless summers' in the early years of this century.[133] Moreover, the hand of government, seemingly invisible in the two last decades of the nineteenth century, certainly left its mark on the trade in the first years of the new century and tightened its grip on the industry thereafter. When sales and profits eventually increased despite higher prices, the firm was faced with the prospect of war in Europe. Eight per cent of brewery workers immediately volunteered for military service, and many firms would face greater labour shortages.[134] Naturally, trade also suffered, as beer usually rapidly attains luxury status in wartime. Output in 1914 alone dropped 40 per cent, although certain breweries experienced a brief period of increased consumption as men moved into provincial military camps. Before the brewery's balance could even feel the affects of another prolonged battle, however,

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[133]*Brewers' Journal*, 15 July 1911.
[134]*Ibid.*, 15 August 1914.

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prudent measures in the form of reduced dividends had already been implemented. Given the existing business climate, risks of any kind were to be avoided under the brewery's new leadership.

In this sense, it appears that the brewery in the second decade of the twentieth century witnessed a return of the policies espoused by the firm's founders. Although it is clear that Archie modelled himself on his uncle, Charles, and was even compared to his forerunner at the brewery by the local press in his early years, the two men were actually very different. Given that their experiences as managers at the brewery contrasted entirely, this would only appear natural. Increasingly cautious of debt as a result of the firm's near collapse, Archie centralised control at the brewery, a process reversed by Charles Flower during Flower & Sons' expansion in the 1860s and 70s. By implementing such reactionary measures, Archie began to distance himself from Charles's managerial style, and, unknowingly, ensured the ideals of his frugal grandmother, Selina, outlived those of his mentor and uncle, Charles Flower. More importantly, the brewery began to resemble the type of conservative, backward family firm so often criticised by business and economic historians.[135]

Although Flower & Sons was still a noted provincial brewery in 1914, in an attempt to seize a national reputation and grasp a greater share of the London market, the company's board at the turn of the century lost the momentum achieved by managers in the firm's first fifty years. A reversal of trade conditions in the capital brought a period of rapid growth to a dramatic end. Only those individuals intimately familiar with the brewery's administration realised how lucky the firm was to have even survived the first decade of the twentieth century. While the brewery had

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[135]Chandler, *Scale and Scope*, pp. 291-4; and M. Rose, 'The family firm in British business,' in M. W. Kirby and M. Rose (eds), *Business Enterprise in Modern Britain* (1994), pp. 61-2.

commenced the century as a prospering provincial firm with national aspirations, its future no longer looked grand. Within a decade the brewery's prospects changed in ways its managers, especially those able to recollect the firm's expansion and subsequent celebrations in the 1870s, could not have imagined. Despite remaining one of Stratford's largest employers for another fifty years, henceforward, Flower & Sons' strength would be restricted to and noticeable only in the Midlands.

Chapter Two: Science and Technology in a Midland Brewery

I've just read in a book by a friend
That beer, British beer, has diseases,
That Pasteur's the man who can mend
All it's alements - that is, if he pleases.

Poem in the *Brewers' Journal* (1880)

The ability of a brewer to produce an attractive product is a mysterious process; it has been accomplished, however, for centuries, even in the most primitive of breweries. As brewers organised the trade along lines which mass production made possible, the difficulty of brewing two identical beers continued to be discussed. Brewing was in many ways regarded more as an art, and less a science. By the middle of the nineteenth century, however, views appear to have been changing. A review of William Black's *Treatise on Brewing* (1835) which appeared in the *Brewers' Journal* in 1866 suggests such irregularities were vanishing from the trade. Chemistry, dependent on its own laws, had 'superseded witchcraft in every process'.[1] Although it was during this period that many of the great discoveries concerning fermentation and the importance of asepsis were being discussed in trade journals, scarcely any work has been carried out at the brewery level in order to determine how completely these new ideas were accepted by brewers and their employees.[2]

The year generally recognised as marking a turning point in the English brewing industry is 1830. It is in this year that Gourvish and Wilson suggest breweries made greater use of the lessons of science.[3] This is not, however, uncontested

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[1] *Brewers' Journal*, 17 February 1866.
[2] One of few works to examine this process at the local level is Wilson's *Greene King*.
[3] Gourvish and Wilson, *The British Brewing Industry*, p. 48.

territory. Eric Sigsworth, in an article in the *Economic History Review*, argues that minimal chemical knowledge was imported from laboratories to breweries prior to the 1860s.[4] While some disagreement continues to surround this issue, there is less debate concerning the present century. Twentieth-century brewing is commonly believed to have undergone few changes; according to John Vaisey, among other historians of the industry, technological improvements caused no great reorganisation of the trade.[5]

Gourvish and Wilson, however, recognise that they, just as Vaisey, have incorporated a bias into their study of the industry. In their impressive survey they tend to consider predominantly the experiences of the large London and Burton breweries. Not surprisingly, the brewers who they suggest were building laboratories and analysing beer more carefully were those employed by firms such as Bass, Guinness, Ind Coope and Allsopp & Sons. Consequently, it has become necessary to look at the relationship between science, technology and brewing a little more closely. The experiences of many smaller regional breweries, such as Flower & Sons, were omitted from past studies.

Scientists were only first beginning to understand the biochemical properties of yeast in the 1860s; it was the mystery of brewing which kept people applying rules of thumb until at least the second half of the nineteenth century.[6] Although brewers had recognised that fermentation, when carried out in hot weather, could rapidly get out of control, explanations for such phenomena were unavailable.

A native of Arois in the wine-growing district of the Jura, Louis Pasteur originally analysed the process of fermentation in wine, but turned his attention to

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[4]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 537.
[5]Vaisey, *The Brewing Industry*, pp. 18-9.
[6]Mathias, *The Brewing Industry in England*, p. 48.

fermentation in beer between 1871 and 1876.[7] His research challenged the dominant paradigm supported by the work of Liebig, Guy Lussac and Mulder which suggested fermentation merely resulted from the decomposition, or putrefaction of cells.[8] Open to ideas developed earlier by Schwann, Pasteur proved fermentation was caused by microscopic organisms. Shortly after applying his ideas to the wine industry, he concentrated on its effects in brewing. Before doing so, however, he familiarised himself with the industry and even constructed an experimental brewery in his laboratory in Paris.[9] While communicating frequently with brewers in France and Belgium, he understood brewing not only as practised on the Continent; he visited Whitbread's and William Younger's breweries in 1871, regularly corresponded with English chemists, some of whom were employed in breweries, and revealed that fermentation, as was commonly practised in Burton, was dependent on the actions of two different yeast cells, as opposed to a single strain.[10] In 1876, he published the results of his study as they related to the brewing industry in *Études sur la Bière*, an English edition of which appeared three years later. Pasteur's ideas on fermentation, however, were already widely publicised and had entered mainstream scientific discourse in England before his work had been translated.

Copenhagen became a centre for yeast research soon after Pasteur conducted his well-known experiments. Having experimented extensively with yeasts even before he entered the laboratory at the Carlsberg Brewery in Valby (a suburb of Copenhagen) in 1879, Emil Christian Hansen proved Pasteur's theory regarding the problem of

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[7]R. Vallery-Radot, *The Life of Pasteur* (1914), p. 207; and Redman, *Louis Pasteur and the Brewing Industry*, p. 1.
[8]Anderson, 'Yeast and the Victorian Brewer,' in *JIB*, p. 339; and *Brewers' Journal*, 15 October 1903.
[9]Redman, *Louis Pasteur and the Brewing Industry*, p. 4; and *Brewers' Journal*, 15 October 1895. Pasteur had also installed himself in the brewery of M. Kuhn at Clermont-Ferrand in order to study practical brewing methods.
[10][Whitbread], *Whitbread's Brewery Incorporating the Brewer's Art* (1951), pp. 40-1.

secondary and tertiary fermentations. Among other things, his work revealed the existence of a variety of yeasts, some of which, namely 'wild yeasts', could spoil entire brews by their actions. Hansen isolated these pure cultures, identified 'good serviceable beer-yeasts' and described the importance of their different qualities to the brewing industry.[11] The results of his empirical work were published in *Practical Studies in Fermentation*, a German edition of which was available in 1884.

Naturally, one of the most important lessons scientific research at the time reinforced was the need for cleanliness. Even prior to the appearance of evidence which indicated the existence of bacteria and harmful yeast strains, brewers attempted to keep their work environments clean. The numerous vessels found in breweries were not all used for brewing purposes; many were used for washing. The need to clean casks provided coopers and brewery workers with regular work. According to Eric Sigsworth, however, until 1936 most brewery workers cleaned using only 'the brush, elbow grease, and unlimited water'.[12] Perhaps compensating for these primitive measures, most insisted that cleaning be carried out 'quickly after use'.[13] Those containers for which brewers had no immediate use were to be filled with water and drained; this was to be repeated in many breweries once a month at least.[14]

Cleaning comprised an important part of most workers' regimes at Flower & Sons. The only difference from the general cleaning routine described by Sigsworth, however, was that water was not the sole cleanser employed by the firm during periods of maintenance. As early as 1870, the firm used 'Bisul[phite of Lime] in considerable quantity for sweetening utensils and cleaning casks'.[15] Moreover, a number of other

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[11]H. S. Corran, *A History of Brewing* (1975), p. 264.
[12]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 541.
[13]*Brewers' Journal*, 21 April 1866.
[14]Sambrook, *Country House Brewing in England*, p. 77.
[15]SBTRO, DR 227/106

cleansing fluids were developed in these years. Messrs Crawford and Sleigh of Liverpool, for example, made a disinfectant 'which gained popularity with brewers throughout the country'.[16] In 1878, purchasing ledgers reveal that, in addition to bisulphite, Flower & Sons regularly acquired 'Robertson's Disinfectant'.[17] During a tour of the brewery in March 1881, a writer for the periodical, *Land and Water*, reported that, after each brewing, 'every utensil is thoroughly cleansed in hot and cold water'.[18] Perhaps drawing on knowledge acquired on other tours, he concludes that, 'cleanliness is *sine qua non* in every well-managed brewery'.[19]

Primarily, brewers ensured 'scrupulous cleanliness' to prevent infection.[20] Pasteur demonstrated that the diseased fermentation of beer was often caused by the infection of germs alien to the pure fermentation of the yeast. In most eighteenth-century breweries this had been a common occurrence, for most vessels were uncovered, and cleaning was irregular. Although some brewers recognised the threat this posed to the success of their brew, many failed to understand fermentation. This did not, however, prevent them from controlling it.

By the end of the nineteenth century unsterile vessels were generally recognised as a 'dangerous menace'.[21] Equally dangerous was condensation which dripped from ceilings and beams into open coppers. Many brewers, such as Flowers, attempted to control this risk of infection by whitewashing all wooden surfaces in their breweries. Others attempted to control such problems more directly by introducing ventilators to their premises in order to facilitate the circulation of air. Some erected their coppers in separate rooms in order that the rest of the brewery be kept steam-free. Most installed

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[16]*Brewers' Journal*, 15 January 1893.
[17]SBTRO, DR 227/9
[18]*Land and Water*, 5 March 1881.
[19]*Ibid.*
[20]*Brewers' Journal*, 15 March 1885.

greater numbers of shuttered windows. Nevertheless, despite taking such precautions, the prevalence of open vessels, among many other oversights, left brews susceptible to infection from micro-organisms, especially in summer (and agricultural regions) when their numbers increased exponentially.

Although strides had been made to prevent infection, considerable room for improvement remained. For example, in an inventory and valuation of Flower & Sons' premises compiled in 1888, many vessels still lacked covers. The fir, lead-lined liquor backs, which held supplies of water until required for brewing purposes, were covered using only loose boards.[22] Wood, whether used for utensils or to construct vessels, was difficult to keep clean, and often harboured infectious microbes. Although brewers were beginning to recognise the advantages of metal vessels, many were concerned that the soluble elements in these compounds would find their way into their brewed products. Consequently, the introduction of metal mash tuns, for example, generally occurred in the 1890s.[23] Moreover, a number of the largest breweries visited by Alfred Barnard during these years had begun to provide their mashing vessels with covers, if not to prevent infection, then to conserve energy or collect steam.[24] By the end of the century, even the 'old Scottish fancy' for wooden tuns was dying out and aluminium malting utensils were introduced to brewery maltings.[25] However, while the majority of surfaces which came into contact with materials could easily be cleaned, especially after the introduction of tiles to malt houses, and the replacement of wooden floors with jointless, concrete ones, the miles of copper, iron or even lead pipes found in breweries continued to create problems, especially when permanently fixed to a wall or

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[21]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 537.
[22]SBTRO, DR 227/118
[23]*Brewers' Journal*, 15 May 1893; and Corran, *A History of Brewing*, p. 186.
[24]Barnard, *The Noted Breweries*, I, p. 368; Corran, *A History of Brewing*, p. 195.
[25]*Brewers' Journal*, 15 May 1898.

laid underground and subsequently difficult for brewers to clean properly. These anomalies contrast with the precautions firms took to clean brewing vessels and utensils. Such evidence, however, is very revealing for it demonstrates the way scientific change was introduced to firms. Rather than recognising all of a theory's applications and introducing sweeping reforms, brewers often implemented changes haphazardly; innovations appear disjointed. In general, Flower & Sons, like most of its competitors, appears to have been unable to keep up with the more rapid progress made by scientists in the laboratory.

Besides cleanliness, research carried out during this period introduced brewers to tools which would allow them to measure the production process more carefully. One such instrument which greatly rationalised brewing was the thermometer. According to Peter Mathias, this tool permitted brewers 'to manipulate the brewing process exactly'.[26] While few brewers were without its advantage during this period - they have even been found in the inventories of nineteenth-century country house brewers - thermometers were improved throughout the last decades of the nineteenth century. Models developed during this period allowed brewers to scrutinize temperatures from their offices, at some distance from maltings and mash-tuns, or, when combined with alarms, were made to signal when, for example, the temperature of a brew exceeded or fell below a given temperature range.[27] Most importantly, however, rather than just permit greater manipulation, this inexpensive instrument standardised brewing. This, in turn, facilitated communication among those interested in the trade. Consequently, brewing textbooks became not only more numerous, but provided easy-to-follow instructions. Before the introduction of the thermometer

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[26]Mathias, *The Brewing Industry in England*, p. 12.

brewers frequently referred to liquids which were to be heated 'as hot as the hand can bear';[28] the thermometer, among other scientific instruments, insured the disappearance of such subjective language.[29]

Very regularly, ledgers also reveal brewers to have purchased microscopes. Unlike the thermometer, this instrument became more common after Pasteur's and Hansen's discoveries gained recognition. Not surprisingly, the earliest microscopes were used by brewers to determine whether yeast samples had become infected by wild strains. Combined with photographic technology at the end of the last century, brewers were able to consult images of typical yeast fields for regular referral in order to facilitate the identification of both healthy and harmful strains. The instruments were applied to malting more slowly, a branch of the trade generally regarded as more conservative than the brewhouse.[30] Moreover, a microscope was not as straightforward to use as a thermometer. Consequently, it was less frequently acquired. By the commencement of the period which outlines this study, The London brewers, Whitbread & Co., one of the nation's largest breweries, did not possess a microscope.[31] Only a decade later were models such as the brewers' microscope produced by T. Swift & Sons, the London instrument makers, regularly advertised, described in trade journals and, most importantly, made affordable.[32] Flower & Sons purchased what was described as Watson's microscope for £11 0s. 6d. in November

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[27]Sambrook, *Country House Brewing in England*, p. 21; Barnard, *The Noted Breweries*, I, p. 367; and III, pp. 425-6.

[28]*Brewers' Journal*, 15 March 1885; Talbot, 'Fifty Years' Experience of the Quality of Beer,' in *JIB*, p. 398; and Barnard, *The Noted Breweries*, I, p. 179.

[29]In 1884, however, the editors of the *Brewers' Journal* still called for the development of a universal brewing nomenclature, see 15 June 1884.

[30]Barnard, *The Noted Breweries*, III, p. 434; and *Brewers' Journal*, 15 July 1905.

[31]Redman, *Louis Pasteur and the Brewing Industry*, p. 4. Whitbread's purchased R. & J. Beck's microscope in 1871 for approximately £28 approximately a week after Pasteur's visit.

[32]*Country Brewers' Gazette*, 17 January 1883. Swift & Sons' microscope was recommended to almost all of the *Brewers' Journal*'s subscribers who requested information concerning such instruments from the periodical's scientific consultants.

1878.[33] Six months later, in what appears to confirm an increasing faith in science, they acquired a 'chemical apparatus' which cost 9s. 8d. Thermometers had been used in the brewery since the 1830s. Unfortunately, very little evidence ever reveals the ways in which equipment or chemical apparatus was used.

Although these instruments were listed in the ledgers of most breweries, they were not universally accepted by the industry. In a lecture given at a meeting of the London branch of the Institute of Brewing in 1895, Arthur Hartley, head brewer at the Emsworth Brewery near Chicester, cautioned his colleagues from relying solely on them. Instruments, of brass or glass, he argued, were 'by no means to be absolutely depended upon'.[34] This should not have come as a surprise given that few brewers regularly tested the correctness of their thermometers.[35] According to Bedo Hobbs, also a member of the Institute of Brewing and head brewer at Nicholson's Brewery, Maidenhead, accuracy was by no means the greatest problem. While he believed the microscope to be of immense value to the brewer, and few were without its use after 1880, he claimed 'too many [were] kept locked up in a case, instead of under a glass shade ready for use'.[36]

Not all brewers were guilty of this practice. William Garton and William Butler, for example, were two brewers who were said to have raised brewing from 'empiricism to science'.[37] Birmingham's Mitchells & Butlers had set up a laboratory in their Cape Hill Brewery at the turn of the century under the supervision of Butler, one

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[33]SBTRO, DR 227/9. The price was comparable to several of Swift & Sons' basic models.
[34]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 374.
[35]*Brewers' Journal*, 15 August 1893.
[36]SBTRO, DR 227/121. A copy of the lecture is included in Flower & Sons' scrapbook. See also *Brewers' Journal*, 15 July 1912.
[37]*Brewers' Journal*, 15 March 1905; and T. Corran, 'William Garton,' in *Dictionary of Business Biography* (*DBB*), II (1984), pp. 491-4.

of the company's directors, who was also a qualified chemist.[38] According to the firm's historian, it allowed their brewers to detect the use of adulterants, ascertain the purity of their brewing materials, study the innumerable reactions of one ingredient on another and examine yeasts; a sample of each brew was also kept for future analysis. As a result of their experiments they claimed there was no liquor - 'certainly not water, and assuredly not milk' - which was as pure as their 'Good Honest Beer'.[39] Few breweries, however, could claim such a laboratory during this period, despite its low cost when compared with the average provincial breweries' usual expenses.[40] In July 1880, the *Brewers' Journal* estimated the cost to set up even the most basic laboratory to be approximately £100; that owned by Mitchells & Butlers was certainly more elaborate. Flowers did without even the most elementary laboratory facilities until the second half of the present century.[41] Most of the large breweries visited by Alfred Barnard in the last decade of the nineteenth century had only the smallest laboratories, or else a brewer's office often doubled as his laboratory.[42]

While brewers such as Flowers appear to have modified their brewing practices in light of investigations fuelled by Pasteur's research, they were also prepared to limit changes within their breweries. Research in science, however, did not seem to recognise such barriers. During the first decade of the twentieth century, chemists were, for example, conducting far more complex investigations into issues of infection. In 1909, Sorenson introduced his concept of hydrogen ion concentration. This, among other things, allowed brewers to determine the pH values of their wort and beer and

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[38]K. H. Hawkins, 'William Butler,' in *DBB*, I, pp. 533-5.
[39][Mitchells & Butlers], *Fifty Years of Brewing, 1879-1929* (1929), p. 17. Although the brewery was relatively advanced in their decision to build a laboratory, all of their coppers still lacked covers. For a description of the new buildings see the *Brewers' Journal*, 15 March 1880.
[40]*Brewers' Journal*, 15 December 1912.
[41]Interview with Dennis Flower, 1 August 1996.
[42]Barnard, *The Noted Breweries*, I, p. 22.

thus determine the susceptibility of their product to infection by bacteria.[43] Approximately a decade earlier, important research by Eduard Buchner and Arthur Harden, both eventually rewarded with Nobel prizes, had begun to explore the role of enzymes in fermentation science. Building on Buchner's findings, Harden demonstrated that zymase was not one enzyme but twelve, and that phosphate, through the energy-rich compound adenosine triphosphate (ATP), was the driving force not just of yeast metabolism but of all metabolism.[44] Such concepts, however, were beyond the grasp of individuals who studied basic chemistry texts only intermittently. Clearly, such ideas would have to be introduced to breweries by alternative channels.

Even a rudimentary understanding of chemistry, and a little practice with a microscope, however, gave brewers greater control over the brewing process. Increased precision and a basic understanding of fermentation, for example, introduced the possibility of quality control. As many brewers believed the quality of their product depended primarily on the liquor used, water was often the first brewing ingredient to undergo thorough analysis. Wilson's and Gourvish's work suggests this was a logical response, for it was not a firm's technology which gave it an advantage over other breweries, but its water supply.[45]

Local differences between beers were more likely the result of water supply than other factors. Most regions had water supplies suited to the production of particular types of beer. Burton water was suited to high hopping pale ales. That of London was suited to stouts and porters. A decline in the popularity of porter, and an increased demand for Burton ales, led many scientists, namely Combrune and

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[43]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 550; and R. Anderson, 'Highlights in the History of International Brewing Science,' in *Ferment*, VI (1993), p. 197.

Richardson, and, later, Shaw and Molyneux, to boil off the local water and determine the components which gave Burton's supply its distinctive flavour. The results of such analyses were often made public by trade journals.[46] Individuals, such as Professor Tilden of Mason Science College of Birmingham, to take one instance of many, lectured on the subject before he was appointed Dean of the Royal College of Science.[47] Furthermore, once the chemical constituents of a source had been determined, water supplies could be altered to suit a particular product. For example, as the popularity of Burton ales increased in the nineteenth century, brewers throughout England could produce beers which shared its characteristic 'pineapple' flavour by either softening or hardening their water supplies accordingly. Even when they did not go to such extremes, brewers had learned the importance of a reliable water source, especially vital to those who also produced mineral waters, and expended considerable sums in order to obtain one.[48]

The water used by Flowers shared many of the characteristics which made Burton ales famous. The firm's water, known for its 'excessive hardness' - the brewery lay on the Keuper marl division - flowed from artesian wells sunk in the 1890s.[49] Rather than risk the loss of a reliable water source, a misfortune which afflicted many smaller breweries, such as the Warwick and Leamington Brewery,[50] Flower & Sons employed the services of Horace Tabberer Brown, a consultant chemist formerly

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[44]Anderson, 'Highlights in the History of International Brewing Science,' in *Ferment*, p. 196.
[45]Gourvish and Wilson, *The British Brewing Industry*, pp. 82-3.
[46]*Brewers' Journal*, 15 March 1867.
[47]*Country Brewers' Gazette*, 3 January 1883.
[48]Interestingly, although the purity of water was usually determined by scientific means, brewers still employed diviners or dowsers trained in the art of rhabdomancy in order to discover underground sources, see, for example, *Brewers' Journal*, 15 March 1895; 15 July 1896; 15 January 1897; 15 May 1897; 15 June 1899; and 15 February 1905. Brewers who hired diviners in these years included R. & W. Randall, Guernsey, Ashford Breweries, Kent and the Anglo-Bavarian Brewery in Shepton Mallet, Somersetshire.
[49]*Birmingham Gazette*, 22 November 1895; *Brewers' Journal*, 15 June 1895; and 15 December 1895.

employed at Worthington's in Burton, who had since set up a laboratory and offices at Chancery Lane, London, and commenced an uncertain undertaking.[51] Advised by Brown, Messrs Ebenezer Timmins & Sons of the Bridgewater Foundry, Runcorn drilled more than eight hundred feet, 'a case without parallel in the experience of the contractors', to ensure a sufficient water supply.[52] At the conclusion of the project, an eight-horsepower pump was installed to aid in the lift of water. Periodically, water samples were sent up the road to local chemists, Kendall & Son, in order to ensure the source remained free of contaminants. Between 1870 and 1914, Flower & Sons never suffered from a shortage of water and even supplied 75 per cent of the town with a reliable source during a drought in 1912.[53]

The selection and use of barley also followed the systematic methods of science. Near the end of the nineteenth century, many of the country's brewers already kept grains from various suppliers separate. According to trade spokesmen, however, few were concerned with their preservation, products often being kept in sacks and stored in areas exposed to the circulation of humid air.[54] This was considered even more shameful given the great care which was exercised during purchasing. Although brewers had traditionally been involved with buying and selling grain, the criteria used to judge barley was changing. While most brewers still judged grains using artisanal methods - by their senses of sight, smell and touch - microscopes permitted such examinations to be carried out in greater detail. This certainly improved their ability to locate mould in sales samples. The role of region and soil were also recognised as an

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[50]Warwickshire County Record Office (WCRO), CR 1097/123; and Luckett, Flint and Lee, *A History of Brewing in Warwickshire*, p. 34. The firm lost its water supply as a result of railway construction.
[51]*Stratford Herald*, 22 November 1895.
[52]*Ibid.*; and Knox, *The Development of the London Brewing Industry*, p. 142. At Whitbread & Co., as at most other London breweries, water was pumped from a depth of approximately five hundred feet.
[53]*Stratford Herald*, 16 February 1912.
[54]*Brewers' Journal*, 15 September 1884.

important influence on the quality of grain. As early as 1866, W. L. Tizard claimed the best barley was grown on calcareous land in rich, loamy soil.[55] Varieties grown in clay soil were judged to be too thick-skinned and poor in starch.[56] Too much nitrogen in the soil created albuminous matter which clouded beer, a complaint addressed within the pages of various brewers' journals on numerous occasions.

Breweries which grew their own barley, and made their own malt, controlled its quality directly. Research in this field was conducted throughout the last decades of the nineteenth century. While employed at Worthington's Brewery in Burton, almost all of Horace Brown's investigations concerned malt and the quality of its extracts during mashing. Few breweries, however, funded such research until the first decades of this century, when Mendel's laws of heredity were rediscovered. Between 1901 and 1906, the work of Edwin Sloper Beaven allowed Guinness's brewers to determine the amount of nitrogen in barley and, thus, which varieties were most suited to their brewing needs.[57] Flower & Sons was one of many breweries which attempted to control the quality of their barley indirectly. In order to induce farmers to exercise greater care in threshing, Flowers offered prizes of £10 and £5 to those who provided them with the best dressed and screened lots of barley.[58] Careless threshing, they claimed, produced 'broken and thinning corns and this greatly [depreciated] the value of the article'.[59] Furthermore, farmers rarely cleaned their corn perfectly. Not only was

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[55]*Brewers' Journal*, 17 February 1866; and A. Ure, *Dictionary of Arts* (1878), p. 301.
[56]R. D. Bailey, *Notes on Brewing* (1889), p. 59.
[57]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 550; and P. Palladino, 'Science, technology, and the economy: plant breeding in Great Britain, 1920-1970,' in *EHR*, XLIX (1996), p. 119. The Guinness Research Laboratory was started in 1901 under the direction of Horace Brown.
[58]The Newark maltsters Messrs Gilstrap, Earp & Company had offered similar prizes, amounting to £50, since 1889, see, for example, *Brewers' Journal*, 15 May 1898. By the end of the last century, these contests had become very popular in even the smallest communities and were usually held in the local corn exchange. London's largest competition, founded by Henry Stopes, took place in Agricultural Hall.
[59]*Stratford Herald*, 15 September 1899. Each year approximately fifty farmers competed for the cash prizes offered by the brewery.

the quality of barley grown in the district improved with the introduction of prizes, but, according to the firm's directors, after the first of such rewards was offered, farmers often refused to hire threshing machines 'until the owners had them entirely overhauled and repaired'.[60] These competitions lasted throughout this century, were also introduced to hop-growing regions and saw representatives from breweries, such as Guinness, regularly act as judges.

Hops affected the taste of ale more subtly. A better understanding of the product, however, allowed brewers to monitor its use more closely. Like barley, its physical characteristics came under greater scrutiny during these years. Good hops were to have large cones, stobiles of pale yellow colour and short stems; rubbed between the hands they were to feel glutinous and oily.[61] Moreover, due to its fluctuating price, brewers exercised greater care in choosing the right hops, for, in this way, less were used.[62] Furthermore, scientific research revealed the chemical properties of hops. Beyond simply giving flavour to the beer, hops were recognised for their preservative qualities. Thus, brewers finally understood the way in which hops often counteracted infection in beer.[63] Nevertheless, most analyses of hops were still carried out with the aid of the naked eye.[64] Those in charge of purchasing were primarily concerned their samples were free of mould and excessive sulphur, 'the terror of a

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[60]*Brewers' Journal*, 15 April 1900.
[61]*Ibid.*, 15 October 1883.
[62]Vaisey, *The Brewing Industry*, p. 89.
[63]Recently, research has qualified this view. For example, see A. H. Rose (ed), *Economic Microbiology*, I (1977). Although hops are a preservative, lactic-acid bacteria have developed tolerances to hop substances once proven to exhibit bacteriostatic powers.
[64]*Brewers' Journal*, 15 October 1902. In his *Hop Judging for Brewers* (1910), C. Oscar Grindley suggests that, 'with care and little trouble a buyer by rubbing hops down and using his sense of smell together with his sense of sight can, in most cases, become a sufficiently good judge of the intrinsic value of hops to be a guide for his purchases', see Grindley in *Brewers' Journal*, 15 October 1910.

careful brewer'.[65] A greater understanding of the products' chemical constituents came only in the later decades of the twentieth century.

The theories advanced by scientists during the nineteenth century were not all introduced to the English brewing industry overnight. Some were accepted more slowly than others. As Peter Mathias points out in his comprehensive study of the industry, this caused an intermediary stage 'between the empiricism of the seventeenth century, and the beginning of fundamental scientific analysis in the mid-nineteenth century'.[66] While the acceptance of a theory, such as Pasteur's, suggested 'a commitment to the same rules and standards for scientific practice',[67] it also implied the rejection of many previously-held views. While they served as a forum for conveying the latest research to brewers, trade journals also enabled brewing chemists to challenge each others' findings. In such cases, conversion proved especially difficult among those most committed to established world views. For example, in Germany at this time, a group of individuals attacked the brewing industry and claimed chemistry had 'got into the beer'.[68] In the industry's defence, it was claimed that, 'although chemical knowledge [was] applied to...materials and...the brewing process, *chemicals* [were] conspicuous by their absence from the brewery'.[69] However, brewers whose businesses were still organised along craft lines, believed their forefathers, who knew nothing of chemistry, had been able to produce a better product. As a result, many brewers for a time dared not engage a person who was 'guilty of the unpardonable sin of learning chemistry'.[70] Moreover, despite the early favourable depictions of scientists in eighteenth-century England, the image of the scientist in Victorian times became

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[65]Barnard, *The Noted Breweries*, I, p. 358.
[66]Mathias, *The Brewing Industry in England*, p. 65.
[67]T. Kuhn, *The Structure of Scientific Revolutions* (1970), p. 11.
[68]*Country Brewers' Gazette*, 6 June 1883.
[69]Barnard, *The Noted Breweries*, I, p. 180.

increasingly bleak.[71] Evidence reveals the scientific method was resisted at Worthington's in Burton because the necessary instruments introduced by Horace Brown suggested to customers that beer was being 'doctored'.[72] Other critics felt chemistry in general was being used to discover substitutes for 'honest malt and hops', especially after 1880 when brewers were permitted to utilise materials more freely.[73] As is to be expected, often such claims were used as a defence by those still brewing according to traditional methods and who believed chemists used the 'glamour of language to cloak ill-digested ideas'.[74] This was true in the case of James Herbert, whose *Art of Brewing India Pale Ale and Export Ale* (1872) was, in the author's own words, 'based on practical experience', Herbert having had no knowledge of chemistry.[75] Herbert confessed he was not enraptured by chemistry and was confident brewers did not require the aid of a chemist. He even went so far as to claim chemistry had 'nothing to do with the production of Malt liquors'.[76] He was not the only writer to describe 'the imprudent way in which chemistry has been introduced into brewing and brewing books' during the last decades of the nineteenth century.[77]

The popularity of such views, however, was in decline. For example, although John Marston & Son in Burton was one of many breweries where Herbert's work was used or, at least, purchased, a little more than a decade later the firm also acquired R. D. Bailey's *Notes on Brewing* (1889), which espoused a very scientific approach to

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[70]*Country Brewers' Gazette*, 6 June 1883.
[71]R. Haynes, *From Faust to Strangelove: Representations of the Scientist in Western Literature* (1994), p. 127; and M. Wiener, *English Culture and the Decline of the Industrial Spirit, 1850-1980* (1981), pp. 17-9.
[72]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 538; and H. T. Brown, 'Reminiscences of Fifty Years' Experience,' in *JIB* (1916), p. 270.
[73]*Country Brewers' Gazette*, 6 June 1883.
[74]*Brewers' Journal*, 15 July 1880.
[75]J. Herbert, *The Art of Brewing India Pale Ale and Export Ale, Mild Ales, Porter and Stout* (1872), p. 5.
[76]Herbert, *The Art of Brewing India Pale Ale*, p. 5. Interestingly, Herbert also recommended Flower & Sons' ale which he regarded as 'equal to the best Burton brands', see p. 8.

brewing; it directly addressed brewers, such as Herbert, who called 'for the abolition of theory in connection with the all-important industry, brewing'.[78] While journals continued to receive letters from readers who were critical of the role played by chemists in the brewing industry, many more of their correspondents requested the periodicals' consultants to recommend readings which dealt adequately with the chemistry of brewing.

Despite the time-lag required for some brewers to adjust to the advances of nineteenth-century science, the industry generally appears to have welcomed the latest technological developments more readily. For example, many of Boulton and Watt's earliest engines were first introduced to breweries in order to facilitate milling and pumping water. Whitbread & Co. introduced steam power to their brewery in 1785.[79] Engines lasted decades and had low maintenance costs.[80] Moreover, as few of their workers were organised during the nineteenth century, brewers rarely faced opposition when they introduced mechanical innovations. Although very few were extraordinarily innovative, most brewers introduced some technological changes during this period.

By the 1870s many breweries were in need of improvement. Flowers was one of many that rebuilt their facilities in this decade.[81] Although numerous technological advances suggest this was an ideal time for breweries to modernise, Flower & Sons' decision to rebuild was related to the continued growth of their trade and developments in transportation. No longer as reliable a means of transportation, navigable waterways were superseded by railway networks. As was described in the

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[77]*Brewers' Journal*, 15 July 1867.
[78]Bailey, *Notes on Brewing*, p. 38.
[79][Whitbread], *Whitbread's Brewery Incorporating the Brewer's Art*, p. 11.
[80]Mathias, *The Brewing Industry in England*, p. 97.
[81]Other breweries rebuilt during this period include the Tadcaster Tower Brewery, Henry Mitchell's Cape Hill Brewery, Birmingham, William Butler's Springfield Brewery in Wolverhampton, Richard Warwick's Northgate Brewery, Newark-on-Trent and Reid & Co., London.

previous chapter, Flowers moved the majority of their production facilities to a new site on the Birmingham Road, nearer to Stratford's railway lines. Many other breweries made similar arrangements, and railway sidings became a common feature of breweries built or rebuilt in these decades. After 1870, Flowers carried out fewer activities in their old brewery, located in the centre of town.

Although the new brewery was much larger than the old plant, the production process at the new facilities did not change dramatically. Some activities were made less labour-intensive through the introduction of more powerful steam engines. The movement of barrels, for example, was facilitated by a steam lift, and the loading and unloading of raw materials, as carried out in the brewery yard, was made less laborious by the introduction of cranes and hoists. Improvements made over the next decades more radically altered the organisation of labour in the brewery. An early form of pneumatic maltings was installed at the brewery in 1878.[82] Though introduced to one malt house only, the method allowed the brewery to save both labour and space, and, more important in Flower & Sons' case, produce malt of a more uniform quality cheaply and safely throughout the year.[83] Electric lighting replaced gas in the nineteenth century and largely superseded steam power in 1901.[84]

The most revolutionary of technological innovations introduced to the commercial brewing process was the refrigerator. Despite believing it caused little reorganisation after its introduction, Vaisey correctly describes it as the 'greatest scientific discovery to brewing'.[85] Aware of the importance of temperature on brewing, Pasteur, when he first carried out his investigations concerning fermentation, originally

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[82]SBTRO, DR 227/9

[83]The need to economise on space was clearly more pressing for brewers manufacturing their product in larger cities where additional land was more costly and difficult to obtain.

[84]*Stratford Herald*, 18 October 1901.

[85]Vaisey, *The Brewing Industry*, p. 86.

wished to free brewing of seasonality and locality. It was the invention of the refrigerator that generally provided brewers with this freedom.

Temperature control was of vital importance to brewers, not only during fermentation, but also in mashing. During mashing, temperature affected the quality of the wort extracted from malt. It also alerted brewers to the best time for adding grains to liquor. This was less straightforward during fermentation, for the resulting chemical change generated heat, and temperatures required adjustment periodically. If this were neglected, violent fermentations led to a loss of the volatile substances in brewing recipes (which gave flavour and quality to the brew).[86]

Refrigerators and attemperators allowed brewers to control temperatures more carefully, especially in summer. After the introduction of refrigeration technology, hot weather no longer threatened uncontrolled fermentation, and production continued all the year round. Moreover, the brewing process was shortened. Work days in breweries were considerably longer in a pre-refrigeration age. Brewers often had no alternative but to wait for a brew to cool naturally by way of evaporation. In a section of his wife's diary, Charles Flower describes his first memories of brewing when he spent nights, sometimes until two in the morning, in the family's Stratford brewery, 'for then it took much longer to get through an eight-quarter brewing with the old plant, than it did to get through any quantity after better refrigerators were invented'.[87]

The effect of temperature on brewing had been recognised centuries earlier. Attempts were made to overcome variations in atmospheric temperature in the period before artificial cooling methods were made more widely available. In previous

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[86]Mathias, *The Brewing Industry in England*, p. 19.
[87]Flower, *Great Aunt Sarah's Diary*, p. 7.

centuries, brewers recommended a brewery be built with 'its back to the sun'.[88] Lead-lined vessels in which brewers cooled individual brewings were shallow and of enormous size, so as to increase the surface area which came into contact with the air. Often, however, simply exposing the brewer's wort to air was not sufficient to cool ale prior to fermentation. As a result, ice was commercially imported from an early date. At the end of the eighteenth century, brewers even began to place attemperators in brewing vessels to control temperature. These often comprised lengths of coiled copper piping through which cool water circulated. During cold spells, warm water could be substituted in order to raise the temperature of the wort; a variation of this sort of attemperator, or heat exchanger, which bore the name of the French engineer Jean Louis Baudelot, continued to be used throughout the late nineteenth century in a number of English breweries.

Scientific developments led not only to the development of more sophisticated refrigerators, but regularly made older cooling methods redundant. For example, after Hansen's work revealed that natural ice often contained spores, many brewers discontinued its use.[89] Moreover, cooling by exposure to air was regarded as equally hazardous. Nevertheless, by the middle of the nineteenth century, refrigeration technology provided some new alternatives which conformed to the latest scientific findings.

According to Wilson and Gourvish, refrigerators were first used in brewing in the early 1800s. Moreover, they suggest the models introduced by Burton brewing engineers Robert Morton & Co. were particularly popular in England. While models patented and manufactured by Lawrence & Co. and Messrs Pontifex were equally, if

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[88]Sambrook, *Country House Brewing in England*, p. 32.
[89]See also O. E. Anderson, *Refrigeration in America* (1953), p. 69.

not more, popular, all three firms advertised in brewing journals, issued informative, illustrated catalogues and regularly participated in the national Brewers' Engineers Exhibition, held annually from 1879. Were one also to consider the numerous smaller manufacturers of refrigeration technology, brewers appear to have had many options. Ether, alcohol and ammonia were all suitable refrigerants. A refrigerator utilising ether was first invented by James Harrison in 1856, and was improved by Messrs Siebe in 1862. In 1860, given ether's inflammable nature, Ferdinand Carré invented a machine that used ammonia. As with the ether machine, operation was continuous, for it used the same ammonia over and over again. By 1862, Alexander Carnegie Kirk of Bathgate Chemical Works, who is more often remembered for his work in the development of the triple-expansion engine, invented a mechanical refrigerator to replace one his employers had purchased from Harrison.[90] Kirk's machine used the compression and expansion of air to refrigerate.[91]

A considerable amount of experimentation was also carried out by individual breweries. Of the 434 patents granted to Scottish brewers between 1850 and 1880, Ian Donnachie suggests 178 (41 per cent) were related to attemperators and refrigerators.[92] Only 70 were related to malting and mashing. Even in March 1881, after which date many more brewers became interested in mashing and bottling technology, of the nineteen patents listed in the *Brewers' Journal* in this month, six dealt exclusively with cooling technology.[93] Perhaps not surprisingly, the single patent granted to Flower & Sons related to refrigeration.

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[90]C. Singer, E. J. Holmyard, A. R. Hall and T. I. Williams (eds), *A History of Technology*, V (1958), p. 149; R. Ensor, *England, 1870-1914* (1936), p. 108; and Anderson, *Refrigeration in America*, p. 77.
[91]Thévenot, *A History of Refrigeration*, p. 444.
[92]Donnachie, *A History of Brewing in Scotland*, p. 180.
[93]*Brewers' Journal*, 15 March 1881.

Although the firm had few patents to its name, in the eyes of contemporaries, the Flowers were revolutionary, particularly in their application of ice-making machines to ordinary refrigeration purposes. A patent for *Improvements in Cooling Beer and Brewers' Worts* was granted to Charles Flower in 1867 for the sum of £50.[94] According to the *Illustrated Midland News*, 'many of the improvements in the manufacture of beer which are now in use throughout the country owe their origin to the members of the [Flower & Sons] firm, and the opportunities which they have afforded others to carry out experiments'.[95]

In the early 1860s, Flower & Sons purchased one of Kirk's most powerful machines; it made three tons of ice in twenty-four hours. Ice was used by the firm to cool the chamber in which they brewed directly. This, however, led to great wastage 'on account of the relatively large expenditure of power required' to make ice.[96] Consequently, the firm attempted to use the machine to cool beer, bypassing the intermediate process of ice-making. After spending more than £2000, the firm's management abandoned the experiment, but not the machine.[97] In 1881, the machine was observed by the writer for *Land and Water*, whose notions of cleanliness were discussed earlier. During his visit to Stratford, the machine was 'undergoing repairs so as to be in a state of efficiency when required'.[98] The machine appears to have undergone several repairs, spanning many years, and was eventually replaced in 1883 by an ammonia machine patented by London engineers Pontifex and Wood. In that same year, however, the *Stratford Herald* reported that an accident in the goods yard

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[94]SBTRO, DR 227/141
[95]*Stratford Herald*, 28 January 1870.
[96]B. H. Paul, 'The Artificial Production of Ice and Cold,' in *Quarterly Journal of Science*, XXI (1869), p. 10. Considerable wastage also resulted when firms attempted to store ice. By the 1880s many brewers had given up using natural ice, especially as chemists began to realise that the element frequently contained spores, which interfered with fermentation.
[97]SBTRO, DR 227/121

of the brewery damaged a piece of machinery which formed part of the firm's refrigeration unit.[99] Although in running order shortly after the accident, the machine was not sufficiently reliable to permit summer brewing.

Simply because a brewery acquired refrigeration equipment does not imply they brewed throughout the summer months. In fact, it does not necessarily mean the firm used this technology at all. In a letter written to the *Brewers' Journal* in 1867, a brewer, using the pseudonym Progress, described his reliance on traditional cooling methods. Although he experimented with refrigerators, Progress continued to use cooling backs, and kept the former as an auxiliary cooling technique. He was convinced that cooling through exposure to air was preferable to cooling without air, as was the case when the wort was passed through a refrigerator in pipes. Trade journals continued to advocate traditional cooling backs for similar reasons. Moreover, many regarded these machines to be a poor investment. Brewers' ice-making machines appear to have worn out far more quickly than their steam engines. According to Flower & Sons' managers, 'ten years is a very long life for such things'.[100]

The details relating to Flower & Sons' brewing schedule can be examined in greater detail by using the firm's brewing journals for this period.[101] Entries from 1880, almost two decades after Flowers had purchased Kirk's machine, suggest the brewery did not attempt to brew in the month of July, and completed only one brewing in June.[102] Although they brewed on twelve separate occasions in May, fewer quarters of barley were used in order to minimise loss, should spoilage have occurred. By August,

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[98]*Land and Water*, 5 March 1881.
[99]*Stratford Herald*, 16 March 1883.
[100]SBTRO, DR 227/110
[101]Unfortunately, the diffusion of ice-making technology during this period cannot be reconstructed using journals published by the refrigeration industry, as the earliest British periodical, *Ice and Cold Storage*, was first published in 1898.
[102]SBTRO, DR 227/206

the firm still brewed on only eight occasions. This was considerably less than in February when twenty-four brews had been undertaken (see Table 7).

In the following year, Flowers attempted to brew on many more occasions during summer months. The results, however, were equally unsatisfactory. The brewing journals for this period show the beers brewed in June to have been 'thick and poor', and, as a result, the brewery received 'several complaints'.[103] After this unsuccessful month, only three attempts were made to brew in July, five in August; summer brewing was solely used 'to keep up the supply when exhausted'.[104]

By 1887, one would expect the difficulties of summer brewing to have been overcome; the opposite appears to have been the case. Fortunately, years after this unsuccessful experimental episode, while reflecting on his career in Stratford before a branch of the Institute of Brewing, the firm's head brewer, Francis Talbot, explained the company's decision to brew during only the coldest months. According to Talbot, the refrigeration produced by the firm's new machinery was applied in a very faulty manner:

> Cold brine was carried in pipes over the whole of the fermenting rooms. It naturally followed that moisture in the air was condensed in snow on the pipes, and that under the influence of the rise in temperature in hot weather, active fermentation in the fermentation squares, and more especially with the access of hot water for cleaning in the union casks, this snow melted off and dripped into the yeast and beer at all stages. In view of the position of the pipes and the manner in which they were carried it seemed to be impossible to prevent this drip.
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> At the commencement of the working of this machine [in 1884] it appeared to have a very satisfactory effect on the quality of the beers. The improvement was maintained for about three years; after that...it was a distinct disadvantage. This may have been due to the fact that these pipes must have been covered with wild yeasts, moulds and micro-organisms that were not present on them when erected, and that the drip of these into the beer must have done infinite damage.[105]

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[103] *Ibid.*
[104] Talbot, 'Fifty Years' Experience of the Quality of Beer,' in *JIB*, p. 399.
[105] Talbot, 'Fifty Years' Experience,' in *JIB*, p. 400.

Consequently, no brewing was carried out between 26 April and 12 September 1887.[106] The same occurred for most of the 1890s. As the brewery had been reconstructed approximately two decades earlier, however, excess capacity permitted its brewers to produce a sufficient quantity of ale in winter and spring to supply their entire trade in summer. Naturally, this continued until the brewers perfected existing cooling methods or had no alternative but to brew during the warmest months of the year. Only in 1899 does the brewery appear to have regularly carried out successful summer brewings. Although noticeably fewer were undertaken in May, as many as thirty-two brewings were attempted in June; the journal does not list any complaints.

According to Dr B. H. Paul, a specialist in refrigeration technology, the brewing industry was remarkable, for 'so little [had] been done in applying artificial refrigeration to brewing'.[107] Writing in 1869, Paul believed Flowers to be one of the few brewers, along with Messrs Truman, Hanbury, Buxton & Co., who used one of Siebe's ether machines, to take advantage of this technology in brewing;[108] most breweries first introduced this cooling apparatus to their hops warehouses.[109] Paul knew of 'no other brewery where artificial refrigeration [was] practised'.[110] Younger's brewery, although the largest establishment in Edinburgh, brewed only in the autumn, winter and spring in the 1870s. Even in Burton, the centre of English brewing, production was 'almost completely shut down during the summer, the main brewing

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[106]SBTRO, DR 227/207
[107]Paul, 'The Artificial Production of Ice and Cold,' in *Quarterly Journal of Science*, p. 10.
[108]The introduction of refrigeration to Truman, Hanbury, Buxton & Co.'s plant is discussed in some detail by the brewery's former chief engineer in G. Scamell, *Breweries and Maltings: their arrangement, construction, and machinery* (1871). According to Scamell (p. 72), 'No brewery of any size should be without ice-making machinery'.
[109]Thévenot, *A History of Refrigeration*, p. 78.
[110]*Ibid.*

operations being carried on between the months of October and May'.[111] Among those breweries studied by Sigsworth, most confined their brewing season in the 1870s to cooler months.[112] During these years, however, many other breweries began to experiment with the latest refrigeration technology. According to the *Brewers' Journal*, between 1845 and 1881, it was becoming more common to brew in summer, though the journal continued to receive letters from brewers regarding the difficulties of brewing summer ales for at least another decade.[113] Ice importation at Guinness, for example, ended in 1867, when a mechanical refrigerator was installed in the brewery. By this date the firm began to brew Double Stout in the summer, though its head brewer, like Talbot, would have continued to brew in cooler months if demand had not been as high as it was.[114] Other firms, however, continued to take precautions. At the Carlsberg Brewery in Denmark, summer brewing became common only after 1881, when Emil Hansen improved methods for breeding pure yeast cultures to replace strains that had become infected by the wild strains which appeared with the warmer weather.[115] In England, moreover, seasonal variations at breweries had only grown more exaggerated in the late nineteenth century, as fewer firms brewed lighter table beers, required for quick consumption;[116] furthermore, although able to brew at all times of the year, most brewers continued to malt only six months of the year.[117]

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[111]Teich, Fermentation Theory and Practice,' in *History of Technology*, p. 119; W. Molyneux, *Burton on Trent* (1869), p. 249; Corran, *A History of Brewing*, pp. 223-4; Anderson, 'Yeast and the Victorian Brewers,' in *JIB*, p. 341; and Brown, ' Reminiscences of Fifty Years' Experience of the Application of Scientific Method to Brewing Practice,' in *JIB*, p. 284.
[112]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 536.
[113]*Brewers' Journal*, 15 July 1884. See also 15 October 1889; 15 July 1890; and 15 August 1891.
[114]P. Lynch and J. Vaisey, *Guinness's Brewery in the Irish Economy, 1759-1876* (1960), pp. 220-1.
[115]Thévenot, *A History of Refrigeration*, pp. 77-8. The Carlsberg Brewery installed Linde's machine in 1879. See also P. Boje and H. C. Johansen, 'The Danish Brewing Industry after 1880,' in Gourvish and Wilson (eds), *The Dynamics of the International Brewing Industry Since 1800*, p. 61. The excess capacity of the plant allowed the firm's managers, as at Flower & Sons, to pursue such a strategy.
[116]Sambrook, *Country House Brewing in England*, p. 163. Winter brews were larger, less frequent and stronger.
[117]Corran, *A History of Brewing*, p. 218.

Nevertheless, many provincial breweries followed the example of their larger or more innovative rivals and also acquired the new cooling machinery, though many firms, like Flower & Sons, undoubtedly experienced technological difficulties of their own. For example, in 1892, 'after exhaustive trials of refrigerating machines', Messrs Combe & Company instructed J. & E. Hall of Dartford 'to alter all their refrigerating machines for wort cooling to the carbonic anhydride system'.[118] Shortly afterwards, Truman, Hanbury, Buxton & Co. also contracted the Dartford engineers for a new refrigeration plant.[119] While others undoubtedly made some progress in these matters, the country's smallest brewers began to acquire the new refrigeration technology only in the 1890s as patents lapsed and prices became more affordable.[120] As a result, at the conclusion of the First World War, the cooling of worts was still regarded as 'a weak spot in most breweries'.[121]

Despite the difficulties faced by Flower & Sons when the firm attempted to introduce artificial refrigeration to brewing, this episode demonstrates considerable initiative and perseverance on behalf of individuals such as Charles Flower. The decision to introduce refrigeration technology to the brewery, and the experimentation which followed, do not appear the actions one would usually associate with a classically-trained entrepreneur, who appeared to have had more time for *belles-lettres* than business. The tendency to view nineteenth-century craftsmen and industrialists as uneducated, A. E. Musson argues, is the result of the historian's failure to understand

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[118]*Brewers' Journal*, 15 December 1892.
[119]*Ibid.*, 15 October 1895.
[120]*Ibid.*, 15 December 1893.
[121]Riley, 'Brewery Labour Problems,' in *JIB*, p. 163; and R. Wilson, 'The Changing Taste for Beer in Victorian Britain,' in Gourvish and Wilson (eds), *The Dynamics of the International Brewing Industry Since 1800*, p. 101.

the possibilities of self-education.[122] Facilities existed whereby the curious could familiarise themselves with developments in their fields of interest. Examples of self-educated industrialists demonstrate that scientific knowledge was more diffused through industry than previously thought. Although many attempted to analyse chemical processes far too complex for the chemical knowledge of the period, their efforts nevertheless were often scientific in the sense of being based on rationally ordered experiments.

Whether Charles Flower's education extended beyond simply attending presentations sponsored by the Institute of Brewing is difficult to determine. Other than a copy of Ure's *Dictionary of Arts* (1853), which contains an exhaustive chapter on brewing, and some works on electricity, Charles Flower's library contained primarily travel literature and the complete works of William Shakespeare.[123] Had he been interested, however, other options existed.

At this time, universities and colleges were beginning to establish courses that offered training in chemistry as it related to brewing. Often these comprised presentations such as Charles Graham's Cantor lectures, which were delivered before the Society of Arts in 1873 and 1874. Such events, however, frequently became more regular activities; Graham's lectures on the chemistry of brewing at University College, London, began in 1878 and ended in 1889, at which time instruction at various other institutions had commenced. For example, several lectures on the scientific principles involved in brewing were given throughout the 1880s by Dr George Tate at the Liverpool College of Chemistry and at Mason's College in Birmingham in the 1890s.[124] Nevertheless, while countries such as Germany and Belgium were establishing schools

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[122]A. E. Musson and E. Robinson, *Science and Technology in the Industrial Revolution* (1969), pp. 72-3.

for brewing, in England, brewing knowledge was still conveyed primarily through chemistry departments at colleges and universities. Chemists within the industry recognised the need for a well-equipped brewing school or college; this was made only more obvious when such institutions began to appear on the Continent. To the disgust of the *Brewers' Journal*'s editors in 1883, several of whom were trained chemists, even 'barbaric Russia [had] its richly endowed school'.[125]

At the beginning of the present century the system of brewers' instruction changed as interests in technical education increased. As the result of brewers' own efforts, the British School of Brewing and Malting was established in Birmingham in 1900; Horace Brown's half-brother, Adrian, formerly chemist to Messrs Salt & Co. Ltd in Burton (1873-99), held its first chair of brewing and malting. It has been suggested that, by 1902, it was overwhelmed with students.[126] Those who taught at these institutions, however, claimed they were teaching the practical, not the scientific aspects of the trade. It has also been recognised that most firms did not recruit from these institutions, [127] though some brewers, such as Mitchells & Butlers and Guinness each employed six of the school's graduates a decade after it was founded.[128] As science did not immediately entail success for the brewer trained in modern chemistry, training was discouraged even more. Charles More has demonstrated that, even if technical education were pursued, promotion was not automatically guaranteed.[129]

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[123]SBTRO, DR 50/1
[124]*Brewers' Journal*, 15 December 1891.
[125]*Ibid.*, 15 August 1883.
[126]Gourvish and Wilson, *The British Brewing Industry*, p. 62.
[127]*Ibid.*
[128]*Brewers' Journal*, 15 March 1911; and 15 March 1912. Mitchells & Butlers actually hired Thomas Henry Morley, the first student to graduate from the School of Brewing and Malting and the son of Birmingham University's Secretary. Morley eventually became the firm's head maltster, see *ibid.*, 15 October 1913.
[129]C. More, *Skill and the English Working Class, 1870-1914* (1980), p. 220; see also D. Landes, *The Unbound Prometheus* (1982), p. 346; and *Brewers' Journal*, 15 February 1898.

Advancement often depended on other criteria. Consequently, science would have to be introduced at the average brewery in other ways.

Many chemists, however, were joining brewery staffs. Most of those hired, as in the past, were employed in the Burton breweries.[130] Horace Brown had spent many productive years introducing science to Worthington's brewing process; his colleague, Dr Griess, was similarly employed at Allsopp & Sons during this period.[131] Cornelius O'Sullivan, a recipient of the Longstaff Medal, presented by the Chemical Society to the individual who presented them with the best original research over a period of three years, completed much of his research while employed by Bass & Co., which he joined in 1863.[132] Frank Faulkner, a long-time editor to the *Brewers' Journal*, and the author of *The Art of Brewing*, was appointed consulting brewer to the Beeston Brewery Company, near Nottingham, in 1882, before opening his own offices in Edgbaston, Birmingham.[133]

Sometimes, brewers themselves had had opportunities to study the chemistry of brewing. J. M. Green left hat manufacturing to study under the celebrated Professor Graham, before entering the brewing trade.[134] Another of Graham's students was George W. Bindloss, who later became J. W. Green's head brewer at Luton.[135] No evidence relating to the education of Flower and Sons' brewer, Francis Lawrence Talbot, exists. Nevertheless, the fact that he was succeeded as head brewer by his nephew, Graham Talbot, named after Thomas Graham, 'the father of colloid

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[130]Sigsworth, 'Science and the Brewing Industry,' in *EHR*, p. 539. For a discussion of the work of Burton's earliest chemists, see N. Morgan, *The development of biochemistry in England through botany and the brewing industry, 1840-1890* (1981).
[131]Barnard, *The Noted Breweries*, III, p. 148.
[132]See O'Sullivan's entry in *DNB*. Interestingly, O'Sullivan is the only brewers' chemist listed in the reference work's numerous volumes.
[133]*Brewers' Journal*, 15 December 1882; and 15 March 1891.
[134]SBTRO, DR 227/140
[135]*Ibid.*

chemistry',[136] suggests a certain amount of respect for the scientific developments of the day.[137] We can, however, be more certain about the qualifications of another Flower employee, Joseph O'Connor. A native of London, who joined the Flower firm in 1889, O'Connor listed himself as a brewer and analytical chemist in the 1891 Census. While his exact duties are unknown, an entry for 3 March 1891 in the firm's rough minute book indicates that a board consisting of Edgar Flower, Archie Flower and Stephen Moore resolved that Mr O'Connor be allowed to take some pupils in chemistry, 'each subject to the Firm's approval', and the fees paid by such pupils to be equally divided between O'Connor and the brewery.[138] O'Connor, however, left the firm less than a decade later.

Few breweries were run on lines which necessitated the hire of a salaried, professional chemist. Moreover, evidence suggests it was not usual for a head brewer to have a chemist's degree.[139] Most firms appear to have required, or at least paid for, scientific advice only intermittently. Not surprisingly, government legislation often triggered periods of rationalisation and experimentation. The imposition of a beer duty in 1880, as opposed to a malt tax and sugar duties, is an event credited with having taught many brewers their business. The Beer Act's passage gave brewers what has been since referred to as the 'free mash tun', and, by not restricting the materials they used, the incentive, already granted their Continental counterparts, to experiment. A contributor to the *Country Brewers' Gazette* was one of many who argued the political decree would stimulate inquiry and research. In an article, 'Beer of the Future', he suggests that, prior to the introduction of this legislation, 'only the most elementary

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[136]H. Kamminga and M. Weatherall, 'The Making of a Biochemist,' in *Medical History* (1996), p. 287.
[137]SBTRO, DR 227/140
[138]SBTRO, DR 227/103

attempts were made to study the chemical details and the scientific side of brewing'.[140] Not all brewers, however, jumped at this opportunity to experiment.

In a number of cases, rather than stimulate investigation, the Beer Act forced brewers out of business. According to the new legislation, the brewer was to submit details of the produce or yield of each of his brewing operations to the Inland Revenue. Many found themselves unable to provide details relating to the specific gravity of their beer in the books provided by taxation officers, for they had not procured a saccharometer or hydrometer.[141] Many who did purchase these instruments had not become acquainted with their use, nor did they pay attention to the 'proper mixing and rousing of the worts', so as to secure a true average gravity.[142] For years after the Act's passage brewing journals attempted to instruct brewers in ways to determine a beer's specific gravity. Often a month after the method was described in detail, journals continued to receive letters on the same subject from perplexed brewers. In this respect, the rationalisation of the brewing industry may have had a great deal to do with the disappearance of those firms not able to satisfy the demands of such legislative acts, and less with the general spread of knowledge throughout the trade.

The introduction of the 1880 Beer Act caused considerable panic at Flower & Sons. Immediately, the firm wrote a letter to the Inland Revenue claiming it 'would seriously interfere with [their] process of brewing'.[143] They believed this legislation made it almost impossible for them to brew beer of the 'same class'.[144] Rather than

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[139]*Brewers' Journal*, 15 July 1912. This was the opinion of Robert Slater Boddington, who shared his views concerning brewers' educations during a trial for the wrongful dismissal of a rival's employee.
[140]*Country Brewers' Gazette*, 3 January 1883.
[141]*Ibid.*, 17 January 1883.
[142]*Country Brewers' Gazette*, 17 January 1883.
[143]SBTRO, DR 227/106
[144]*Ibid.*

finding it suited to scientifically-run breweries, the directors believed the Act was in harmony with the 'old fashioned brewery of 40 or 50 years ago'.[145]

Nevertheless, Flowers had no option but to reorganise their brewing process so as to satisfy government regulations. It was a process which began with the decision to correspond with another brewery. Perhaps due to the fact that Flowers had previously been contracted by Courage to brew pale ale, the firm decided to breach their unofficial policy of secrecy and correspond with their rival. The result was a letter from Charles Flower to Courage's head brewer to inquire about their methods of mashing and glucose extraction. Flower concluded with an invitation to Stratford to see the brewery 'and everything of interest in connection with Shakespeare'.[146] Whether this offer was accepted is not recorded. In January 1881, Flower began another correspondence, this time with a German brewer, whose ideas on mashing were the 'best he [had] seen on paper'.[147] Although Flower had many questions relating to the mashing and grinding of malt after reading his correspondent's suggestions, he was 'satisfied that great improvements [would] be made upon our old English methods'.[148] Four months later, Flower & Sons' head brewer wrote to the Inland Revenue regarding some experiments with caramel. More specifically, he wanted to know the conditions which regulated its use. By September, experiments continued, only now the firm had acquired a mashing plant design by Emil Welz of Breslau, Germany and mashed according to German methods. Apparently, the machine was a success, for, six months later, Flowers ordered another.

An example such as this demonstrates the way in which a firm learns not only from its own research. Moreover, it implies that the exploitation of discoveries made

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[145]*Ibid.*
[146]SBTRO, DR 227/106

during this period did not necessitate the construction of laboratories, something many of the smallest breweries could not afford, and others did not regard as worthwhile investments. Moreover, as brewing became less seasonal, few chemists even desired to remain at breweries, for such developments radically diminished opportunities to carry out their own research. In most cases, year-round brewing essentially left chemists as production managers who periodically assessed the quality of raw materials. A number abandoned their posts at breweries.[149] Nevertheless, firms had alternatives.

Chris Freeman has pointed out that often a firm acquires information through a process of interactive learning.[150] The services provided by rivals or foreign competitors could be ways of gaining access to scientifically-advanced methods and up-to-date technology. In an article in which he examines the relationship between science and industry, David Edgerton suggests businessmen seeking scientific knowledge had many alternatives; collaboration in research and development was just one of them.[151] Rather than undertake costly research themselves, many breweries used the services of companies that specialised in carrying out standardized, routine activities. At times, even their suppliers provided breweries with considerable product information. When attempting to discover the role of science in industry, the part played by all forms of research organisation must be determined. Given that a laissez-faire stance characterised the government's policy towards science at this time,[152] it is not surprising that brewers had numerous options other than simply to carry out research independently. For example, the Institute of Brewing, from its establishment

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[147]*Ibid.*
[148]*Ibid.*
[149]Anderson, 'Highlights in the History of International Brewing Science,' in *Ferment*, p. 194.
[150]Freeman, 'The economics of technical change,' in *Cambridge Journal of Economics*, p. 470.
[151]Edgerton, 'Science and Technology in British Business History,' in *Business History*, p. 88.
[152]P. Alter, *The Reluctant Patron: Science and the State in Britain, 1850-1920* (1987), pp. 1 and 13; and H. Rose and S. Rose, *Science and Society* (1969), pp. 33-7.

in 1890, conducted considerable research on behalf of its members; its forerunner, the Laboratory Club, provided a similar function when founded four years earlier by J. Danvers Powers and Edward Ralph Moritz.[153] Within a few years branches had formed in the north of England (1891), Yorkshire (1893) and the Midlands (1894).[154]

Trade associations, such as the Institute of Brewing, organised members locally, though all branches merged under a Central Council (established in 1895) in 1903.[155] Members met regularly to discuss the trade and were entitled to journals published by the society. Besides the state of the trade, publications dealt with brewing issues, such as government legislation, bankruptcies and the prices of grain, but also presented the latest scientific discoveries, technological advances and even some administrative approaches to running a business. Journals, such as the *Country Brewers' Gazette*, were almost entirely concerned with the scientific side of brewing. Furthermore, members of the Country Brewers' Society in the 1860s and 70s were entitled to the advice of 'an eminent chemist', Dugald Campbell, free of charge.[156] Established in 1822, its members used the society as a forum in which to discuss their main concerns, especially when they first set up their breweries, or introduced new technological processes.

Flower & Sons benefited greatly from the activities carried out by such organisations. The firm's directors were members of the Institute of Brewing, the Country Brewers' Society and the Licensed Victuallers' Association. Not only did family members and managers attend presentations, but they often chaired society

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[153]W. H. Bird, *A History of the Institute of Brewing* (1955), pp. 2-3. Moritz received his training at the Royal School of Mines. His informal meetings with students evolved into the Laboratory Club with a membership of 10 in 1886, 250 in 1890.
[154]By October 1894, the midland branch had 83 members, 130 in 1896, see *Brewers' Journal*, 15 October 1894; and 15 February 1897.
[155]Bird, *A History of the Institute of Brewing*, p. 3.
[156]*Brewers' Journal*, 15 February 1867.

meetings. On one such occasion in October 1885, Charles Flower chaired an event organised by the Institute of Brewing at which Bedo Hobbs presented a paper entitled 'The Chemistry of Brewing'. Hobbs's paper was very advanced when compared with the works of his contemporaries and provided brewers with advice on how to improve production methods using science as a guide. It remains exceedingly difficult, however, to determine the lessons with which brewers, such as Charles Flower, would leave such presentations. It is easy to tell from notes made on his copy of Hobbs's lecture that Flower did not learn 'how to brew good beer with bad materials'.[157] Another comment suggests Flower saw a place for scientists in the brewing industry: 'I don't think we can do without the Chemist'. Unfortunately, he does not elaborate on the specific role he had in mind.

Recent work on the spirits industry has revealed the importance of scientific consultants during periods of intense research and development. In his history of the Distillers Company, Ronald Weir suggests independent consultants regularly approached firms with proposals to rationalise the production process. In the case of the Distillers Company Ltd, a chemist, Dr Squire, approached the firm's managers with a proposal to improve the consistency of their yeast, the quality of which was recognised as essential to food production.[158]

The consultant chemist also appears to have been an important member of the brewing community. An obituary in the *Brewers' Journal* dated 20 October 1866 lends this idea some weight. The journal's writers reported the death of Mr M. H. Cowell of

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[157]SBTRO, DR 227/121

[158]R. Weir, *The History of the Distillers Company, 1877-1939* (1995), p. 8.

London, a well-known chemist, as 'many brewers [had] engaged his services';[159] apparently, judging from the firm's ledgers, Flowers did not.

The events which followed the introduction of the Beer Act (1880), however, demonstrate the ways in which the firm relied on consultants. After conducting some of their own experiments, Flowers simply adopted a German method of mashing and introduced changes to production under the guidance of the system's inventors.

Experiments, however, did not cease and, presumably, were not very successful. After many more letters to the Inland Revenue regarding the materials which brewers were permitted to use, Flower & Sons finally hired the services of Horace Brown to make four trips to the brewery over a period of twelve months and, for a fee of £100, advise on brewing and malting. In 1901, the firm used the services of another London chemist after a number of people in Lancashire had been poisoned by beer which had been contaminated with arsenic. This time they contacted Dr G. Harris Morris, a frequent collaborator of both Brown and Moritz and lecturer on technical bacteriology at the Jenner Institute of Preventative Medicine,[160] to inquire about the use of coal when drying malt.[161] Flower & Sons' head brewer, Francis Talbot, informed Morris that the brewery intended to abandon coke and replace it with anthracite. However, they were hesitant about this change, for they still had a considerable stock of coke. The use of coke would be immediately halted only if it proved to be hazardous to those consuming Flowers' ale. Consequently, the firm requested Morris to test the malt samples they sent him for arsenic.

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[159] *Brewers' Journal*, 20 October 1866.
[160] Renamed the Lister Institute of Preventative Medicine in 1903.
[161] SBTRO, DR 227/110. Although malt absorbs trace amounts of arsenic when dried in coke-fired kilns, in this case, arsenic came from contaminated glucose. Made by boiling rice in water and sulphuric acid, the glucose manufactured by a Lancashire firm, Bostock & Co. of Garston, near Liverpool had absorbed the iron pyrites which were used in the acid's production.

Some chemists were consulted more regularly. Flower & Sons' accounts reveal that they frequently relied on materials supplied by Kendall & Son, Stratford's brewers' chemists. Although not all of Frederick Kendall's customers were brewers, the firm's growth closely followed events in the brewing industry, and particularly developments at Flower & Sons. As cleanliness was a primary concern of brewers in the 1860s and 70s, the firm was almost entirely concerned with the production of sulphites and bisulphites of lime in its early years. Gradually, as government control over brewing ingredients relaxed, other articles, notably flaked malt, caramels and other black sugars, and, later, nonfermentable copper sugars and primings were added to the list of materials they produced and distributed. Naturally, as Flowers' trade grew, so did Kendall's. By 1890, the chemists had opened their London offices at 59 Mark Lane, near the Corn Exchange, and displayed their wide range of products yearly at the Brewers' Exhibition.[162] Significantly, a few decades after Flower & Sons built their new brewery, some of the buildings which had comprised their old site were purchased by Kendall. Not long afterwards, Frederick Kendall's trade grew to include that of breweries located throughout England. While analytical work was an important component of the brewers' chemist's business, it became even more lucrative, especially after the arsenic scare which affected the brewing trade in 1900, the same episode which had inspired Flower & Sons to contact G. Harris Morris. While the firm had analysed the water sources of many foreign breweries, and a handful of domestic ones, its list of customers grew to include a number of important midland breweries in the first decade of this century (see Table 8). Besides testing the purity of water samples, Kendall & Son advised and sold brewers the salts necessary to either harden

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[162]*Brewers' Journal*, 15 December 1890. Kendall's offices were moved to 59 and 60 Chancery Lane in May 1896. Two years earlier, Kendall & Son had also opened offices in Lille, France.

or soften a supply;[163] this naturally added substantially to their permanent trade. Finally, occasionally the firm sent representatives to breweries to suggest ways in which brewing plants could be run more scientifically. Evidence in surviving reports demonstrates that many breweries had failed to modernise brewing methods in the last decades of the nineteenth century. Wooden vessels were still used until nearly rotten, wild yeasts were prevalent in material samples and the simplest rules of cleanliness were often overlooked in many small firms.[164] Consequently, chemists' most popular products remained those which they first manufactured. With the help of sulphites, which were introduced to finished beer in order to kill any bacteria, even the most negligent of Kendall's clients continued to brew in run-down plants. Marketed as Universal Preservative, Kalissaline, or Phylax, among a host of other carefully-protected brand names, these products were produced by numerous chemists and purchased by hundreds of brewers. London's A. Boake & Company, for example, besides being Kendall's greatest rival, sold their preservative, Kalium Meta Sulphite, generally known as KMS, to Ratcliffe, Ind Coope, Lewes and Saville Bros., among many other firms.[165]

The influence of chemists, such as Kendall & Son, was far from negligible. Over several decades its staff had done much to modernise brewers' practices. When Frederick Kendall, the firm's founder, died in 1883, an obituary, similar to that of Cowell, appeared in the *Country Brewers' Gazette*. He was described as 'one of the first men to make a practical study of chemistry as useful to brewers'.[166] All of the

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[163]Having standardised the water supplies of those breweries which consulted them, perhaps these chemists were also largely responsible for standardising the products brewed in England during these years.
[164]SBTRO, DR 197/170
[165]*Brewers' Journal*, 15 February 1909.
[166]*Country Brewers' Gazette*, 4 July 1883.

journal's readers were presumed to have known 'the success he achieved'.[167] Even greater, however, was that achieved by the chief of the firm's laboratory department, Reginald E. Evans, who joined the firm in 1889, after completing his studies at the Finsbury Institute, and eventually became Kendall & Son's director in 1906. In an obituary published soon after his untimely death in 1913 at the age of 42, members of the Institute of Brewing suggested that 'few men, in the brief space of about twenty years, have made more useful and suggestive contributions to our knowledge'.[168] No

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[167] *Ibid.*

[168] See Evans's obituary in *JIB* (1913).

doubt, Flower & Sons benefited greatly by the work carried out in Stratford under Evans's guidance.

It is not surprising that such consultants should have played an important role in the brewing industry. In many ways it is too great an expectation that brewers could have kept up with rapid developments in chemistry when they practised their trade on a day-to-day basis. Rarely were brewers even permitted to read scientific articles at work; many repeatedly demanded the study of such periodicals be considered part of their work.[169] Moreover, while early articles on fermentation were very accessible to the lay reader, as scientific knowledge accumulated, works written by professional chemists became increasingly more esoteric. Frank Faulkner provided brewers with avernacular edition of Pasteur's work, but few chemists catered to members of the trade in this fashion. By the end of the nineteenth century, it was generally acknowledged that a brewer required a year or two of study in order to understand the chemistry of brewing;[170] few could afford the time away from the trade. While many brewers recognised the close bond which linked chemists with themselves, the majority laboured with 'the voluminous character of scientific literature'.[171] In a lecture to a branch of the Institute of Brewing in 1885, Bedo Hobbs listed the things which he believed all brewers were to learn:

> He must begin with a little elementary chemistry; learn the meaning of the technical terms, an element, an atom, a molecule, a compound, a combining equivalent, a monad, dyad, &c.; commit to memory the chemical symbols, atomic weights, and combined equivalents of the elements and the class to which they belong; the chemical symbols of the acids, bases, and compounds commonly met with in brewer's

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[169] *Journal of the Operative Brewers' Guild*, November 1917.

[170] F. E. Lott, 'The Training of a Brewer,' in *JFIB* (1895), p. 179.

[171] Frankland at 'Annual banquet of the midland section of the Institute of Brewing,' in *JFIB* (1895), p. 46. Only in 1914 were practical brewers provided with a more accessible periodical of their own in the form of the *Journal of the Operative Brewers' Guild*.

> analytical work, their character, and the qualitative tests for their presence. He must acquire some knowledge of the affinity or combining power of different bodies, and especially of the splitting up of carbohydrates and other bodies into their hydration or oxidation products...Having got thus far through the drudgery and elementary part, he may commence the interesting work of analysis, beginning with a series of waters, which he splits up into their organic and inorganic constituents, and these again into their respective component parts.[172]

Hobbs's list was exhaustive. It is not surprising that Charles Flower left this lecture convinced of his need for a chemist. Rarely did brewers achieve this level of familiarity with the principles of chemistry; fifteen years after this list was compiled, Flowers was still unable to test for arsenic in malt samples. Nor is it surprising that the trade's initial response did not foster the sharing of information. The difficulties some brewers faced when acquiring such knowledge led to a period of increased secrecy, particularly when consultants had been paid relatively large fees to conduct much-needed research.[173]

Almost all of Flower & Sons' correspondence of a technical or scientific nature was conducted in secrecy. In a letter to Thomas Wolfe, a director of the Liverpool firm Blood, Wolfe & Son, one of the brewery's more important customers, Charles Flower described experiments in bottling and shipping carried out by the brewery. After a lengthy discussion of the ways in which they had attempted to control secondary fermentations, Flower suggests the subject be 'confined to the numbers in [Wolfe's] firm for many of our largest opponents are more in the dark than ourselves'.[174]

Furthermore, in a lengthy letter to the Revenue which lists the ways in which the Beer Act affected brewing in Stratford, Charles Flower describes the firm's brewing procedures in considerable detail. Consequently, before commencing to outline their

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[172]SBTRO, DR 227/121

[173]*Brewers' Journal*, 15 November 1895. According to the journal's editors at the end of the nineteenth century, some brewers were still using blind thermometers in order to conceal the temperatures at which they mashed and brewed.

[174]SBTRO, DR 227/106

system of brewing, Flower reminds the local officer that the information contained in the letter is 'intended for the excise and not other brewers'.[175] Any disclosure of knowledge depended on a payment, for it was often the result of 'long and painful experiment'.[176]

Interestingly, few historians have questioned the ability of brewers themselves to experiment. Even if firms were receptive to scientific advances, the nature of the brewer's business environment was in many ways not conducive to experimentation. For example, it can be argued that scientific methods are in many ways incompatible with the notion of an open and competitive market. As already mentioned in the introduction to this chapter, brewers had been able to produce an attractive product for centuries. Their greatest difficulty, however, had been to do this consistently.

The implementation of scientific methods to a process, such as brewing, requires that raw materials vary as little as possible, or at least remain constant for a period of time, particularly during periods of experimentation; in order to experiment, variables must be controlled. Were this not the case, a brewer would have had very little chance of identifying the causes of variations between brews. These ideas were perhaps best summed up by Horace Brown when reflecting on these key years of scientific discovery:

> If the brewer were always working under exactly constant conditions as regards the intensity of infection it would be comparatively easy to obtain a qualified answer to these questions, but [the] very factor of infection may perhaps be altering from week to week and from month to month, and, as a rule, he has no criterion of the extent of the variation. Hence, when he looks back on a year's average results, he is apt to attribute any shortcomings to some occult and hypothetical seasonal differences in his material, tending towards

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[175]SBTRO, DR 227/106
[176]*Ibid.*

> instability, whilst the real determining cause in all probability is some undiscovered centre of infection in his brewing plant, etc.[177]

As Brown suggests, brewing journals reveal some of these variations in the brewery. Besides various centres of infection, the raw materials comprising a brewer's inventory fluctuated with prices on the open market. Although stored separately, barley, sugar and hops all varied from one brew to the next. When a barley supplier changed, often so did those of sugar and hops. Furthermore, unlike firms, such as Steward & Patteson, who brewed using only English barley throughout this period, Flower & Sons brewed with malt made from barley grown in numerous countries, Tunisia, Algeria and Palestine, to name a few, in an endless array of soils and fertilizers under various climatic conditions. Since Algerian malt, for example, sold for approximately 32s. per quarter in 1881, it was preferred over domestic varieties which sold for 42s. or 43s.[178] As a result, although some breweries made the use of barley a patriotic issue, the use of foreign malt increased by 30 per cent in 1883 alone.[179] Although entries in brewing journals reveal brewers regularly used tools such as the thermometer and saccharometer, constantly changing materials would have made it extremely difficult for a brewer to determine reasons for any variation between brews. While some of Flower & Sons' customers may have received beer of a consistently good standard, the firm's brewing journals reveal great fluctuations in quality. If the brewers had not regularly reserved the best brews for favoured buyers, such as Blood, Wolfe & Co., customers would have noticed the same great variations which are recorded in most

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[177]Brown, 'Fifty Years' Experience of the Application of Scientific Method to Brewing Practice,' in *JIB*, p. 341.
[178]*Brewers' Journal*, 15 June 1881.
[179]*Ibid.*, 15 January 1884.

brewers' journals for this period. Not surprisingly, a generation later, brewers still conceded that 'no two beers are identical'.[180]

The scientific revolution associated with the experiments carried out by Pasteur during the middle of the nineteenth century does not appear to have radically changed the practice of brewing in Stratford between 1870 and 1914. Although brewers began to adopt many of the tools used by professional chemists, this did not inspire a similar revolution in the brewing trade. Few brewers wished, or believed they could afford, to turn their breweries into laboratories. Many, however, went on to spend considerably more than the £100 which the *Brewers' Journal* estimated to be the cost of a laboratory suited to the needs of a brewer. Moreover, those who did make the necessary investments often did not follow the systematic, scientific methods required to gain greater control of the brewing process. Instead, most brewers relied on brewing societies or, more commonly, the expertise of consultants in order to incorporate scientific principles into a particular stage of production.

The real revolution in the trade appears to have been linked more closely with technology. Usually regarded as unremarkable in terms of innovations, the period from 1870 to 1914 saw brewing in Stratford change from a seasonal occupation into a trade which was conducted all the year round. While the introduction of refrigeration technology to the brewing industry is generally argued to have occurred during an earlier period, this appears to be the result of dating production change from the moment a firm purchased such technology. Moreover, successful summer brewing was an issue that was very closely tied to a better understanding of fermentation. Prior to the 1880s, many brewers were still in the dark when it came to understanding the dangers of summer brewing. As a result, although refrigeration technology permitted

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[180]B. M. Brown, 'Science and the Brewer,' in *JIB* (1934), p. 6.

firms to brew all the year round, Flower & Sons still produced most of its beer between October and April until the last decade of the nineteenth century. Although suitable technology was purchased by the firm much earlier, brewing was not yet free from the influences of climate and wild yeasts. Given that the firm was often described as a leader in the field of refrigeration, perhaps the industry in general still had a way to go before it had sufficiently modernised and technological innovations had been accommodated to the production process in a way that would bring about a complete transformation in the organisation of the brewing trade.

Chapter Three: The Recruitment and Training of Workers

Although nineteenth-century gentlemen entrepreneurs like Charles Flower scarcely received any formal scientific or technical education, few assumed positions of responsibility within their firms without having learned the practical side of brewing; a good manager had to have a knowledge of all the trade's branches. Moreover, the rudimentary training given to individuals such as Flower, despite its imperfect arrangement, frequently evolved into a more systematic form of instruction used to train successive generations of brewers and managers. By the last decade of the nineteenth century, Flower & Sons, among other mid-sized provincial breweries, was well known throughout the country for the training they offered young, prospective brewers. Successful applicants were given the opportunity to learn all branches of the brewing trade over a period of two years. Since many brewers employed traditional craftsmen, such as coopers, maltsters and even joiners, breweries continued to instruct many tradesmen as well. Moreover, brewers' apprentices working alongside these artisans acquired a thorough knowledge of the industry's many branches. As a result of such comprehensive training schemes, pupils who successfully completed a formal brewing apprenticeship became natural managerial candidates.

Despite the high levels of instruction these young men received, they were a privileged élite. Most workers employed at Flower & Sons between 1870 and 1914 received very little training. The majority comprised rural labourers and were recruited by the firm soon after they drifted into Stratford from nearby agricultural districts. Once employed at the brewery these workers learned by 'picking up', namely, learning by doing; few received any systematic instruction.

Brewery workers' skills were clearly linked to methods of recruitment. Labour recruitment determines the skills at a firm's disposal before any training is actually given. If a worker was not hired for his particular skills, these may still have been used by the firm to determine his immediate duties. Many nineteenth-century managers concentrated on recruiting previously-trained workers not only to acquire these transferable skills, but to reduce their firms' training costs.[1] However practical, this practice did not become universal. Depending on specific circumstances and strategies, many firms continued to recruit and train relatively young and inexperienced workers to ensure they had the skills to meet their particular production requirements and would conform to existing business conditions. This is just one way managers have attempted to create loyal, stable workforces. Nevertheless, despite management's wishes, any recruitment scheme requires time to develop, and inevitably changes as a business grows, diversifies and adjusts according to variations in the economic environment.

By 1870, Flowers was Stratford's largest employer. The completion of a new brewery ensured the production of ever-increasing amounts of ale and stimulated an increase in its labour force. By diversifying into the wine and spirits trade and exploiting markets for brewing by-products, such as yeast, spent grains and even horse manure, many more opportunities existed for local residents to acquire part-time positions, many of which would become permanent in the future. Furthermore, numerous entry-level posts were being created as, for example, the number of malt houses increased and the distribution side of the business grew as the firm explored new markets.

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[1]D. Drummond, '"Specifically Designed",' in *Business History*, XXI (1989), p. 10. In her article, Drummond suggests railway companies regularly recruited previously-trained workers as a result of

Many vacancies were filled by relatives of workers already employed at the brewery. Historians and social scientists have frequently pointed out that, right into the twentieth century, it was common for sons to choose the same careers as their fathers.[2] Given the importance of references and the standard letter of recommendation to nineteenth-century businesses, many employers relied on responsible, hardworking and, especially, long-term employees when recruiting. Furthermore, given the late development of labour exchanges and Juvenile Advisory Committees, youths received proportionately more career advice from parents and relatives than would post-World War One generations.[3] As a result, many boys chose those employments with which they were most familiar.[4]

In recent years this specific form of recruitment has been recognised as one which was practised extensively at breweries. Rarely do brewing historians not stress the association of local families over several generations with a particular, usually provincial, firm. In a history of brewing in Warwickshire, when discussing events at Flower & Sons, Ken Flint reinforces this characteristic by arguing that jobs at the brewery passed from father to son. As evidence, Flint describes not only the way in which managerial positions were usually filled by members of the Flower family, but the way in which Graham Talbot succeeded his uncle, Francis Lawrence, as head

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their particular labour strategies.

[2]J. Lane, *Apprenticeship in England, 1600-1914* (1996), p. 231; More, *Skill and the English Working Class*, pp. 65-6; and N. B. Dearle, *Industrial Training* (1914), pp. 79 and 237-9.

[3]An employment bureau was set up specifically for brewers in 1919, see Bird, *A History of the Institute of Brewing*, p. 24; even earlier, in 1881, an experimental brewers' employment agency was started in London by Thomas Blake, a 'Brewery Consulting Expert and Valuer whose knowledge of the requirements of principals and brewers' assistants [had] been matured by an experience of 25 years in the trade'; see *Brewers' Journal*, 15 April 1881.

[4]The factors influencing the choice of occupation among London boys was investigated in detail by S. Berington, and published as *Occupational Misfits* (1933). The question of career choice, however, was investigated earlier by R. A. Bray in *Boy Labour and Apprenticeship* (1911); and O. J. Dunlop and R. D. Denman in *English Apprenticeship and Child Labour* (1912).

brewer.[5] Given head brewers' and managers' generous salaries, it is hardly surprising that some employees secured these posts for relatives. It would be unwise, however, to conclude an investigation into this phenomenon before examining the experiences of workers employed in the trade's other departments. While the former premiss is supported by evidence relating to those individuals who held the most desirable positions in the brewery, very little research has focused on general brewery labourers.

Contemporary oral testimony suggests three generations of some local families were regularly employed at Flower & Sons. Although such evidence corresponds with existing archival material, this became common only at the turn of the century. While the firm's board of directors, after its formation in 1888, always comprised at least two members of the Flower family, Francis Talbot appears to have been the only brewer at the firm who managed to secure his position for a family member upon reaching retirement age. Moreover, although two or more members of local families, such as the Savages, Unitts and Wagstaffs, are frequently listed in the brewery's wage books at the beginning of this century, this was not the norm between 1870 and 1914.

According to nineteenth-century census returns, very few Stratford sons followed their fathers into the brewing trade. As stated in the 1871 returns, of nine boys either employed by the brewery or the sons of employees, and living with their parents the night of the enumeration, none shared the same employment as his father. Of the group, John O. Gray, a brewery labourer, most closely pursued the career of his father, an agent at the 'Horse and Jockey', the sole pub owned by Mitchells & Butlers in Stratford. The fathers of boys employed by the brewery include a blacksmith, tin-plate worker, gas-works labourer, chemist, clerk in a solicitor's office and a veterinary surgeon. John Gibbs and Samuel Knight, the two remaining sons of brewery labourers

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[5]Luckett, Flint and Lee, *A History of Brewing in Warwickshire*, p. 46.

listed in the census, gave their occupations as a carpenter's apprentice and letter carrier, respectively.

Over the next two decades, the pattern changed only slightly. Of twenty-one boys living with their parents at the time of the 1881 census, six, like their fathers, were employed at the brewery. In the majority of cases, most directly emulated their fathers and became brewery labourers. Only one regular labourer, Frederick George Baker, was the son of a cooper. The remaining father and son, Andrew and Clifford Beesley, were both listed as brewers, though they probably worked in the capacity of underbrewers, or brewers' assistants. By 1891, the number of boys who followed their fathers into the brewing trade had increased to nine. Interestingly, approximately half were coopers, the brewery's highest paid manual labourers; traditionally, many more sons followed their fathers into this particular trade.[6] Although the number of fathers and sons in brewing increased, proportionately fewer young men than in the previous decade desired the employment of their fathers; thirty-six of the forty-five boys comprising the sample (80 per cent) chose different occupations.

The extent to which workers relied on other or more distant relatives in order to procure employment at the brewery is more difficult to trace. Evidence, however, suggests that occasionally brothers were employed at the brewery. At times as many as five sets can be found in the firm's registers. Some, such as Philip and Arthur Fagge, over decades rose to become senior agents with the firm. While kinship in the case of brothers can be proven by tracing individuals through census material to the same household, complex family trees are more difficult to reconstruct for an entire brewery. Certainly some individuals used highly convoluted networks in order to acquire a

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[6]B. Gilding, *The Journeymen Coopers of East London* (1971), pp. i and 50; and H. Mayhew, *The Morning Chronicle Survey of Labour and the Poor* (1982), p. 12.

particularly desirable post. Proving the use of these networks, however, is especially difficult given the incomplete nature of sources. Moreover, the fact that some individuals become kin after having obtained employment creates additional confusion. What is clear from a general survey of census material relating to Stratford, however, is that, by the end of the nineteenth century, few young men followed their fathers into the local brewery's service.

Even if more boys wished to imitate their fathers' career choices, it was not always easy for young men to procure employment at breweries. In an article outlining brewery management practices published in the *Journal of the Federated Institutes of Brewing* in 1895, Arthur Hartley claims brewers were prejudiced against boy labour.[7] Alternatively, in his memoirs, *Seventy Rolling Years*, Sydney Nevile, President of the Institute of Brewing (1919-21) and Chairman of the Brewers' Society (1938-40), thought youth to have been his 'special asset' when first seeking employment in the industry.[8] Nevile, however, also realised that, although his first employer considered the early training of a brewer as beneficial, few in the trade at the time did. Scarce any positions at breweries in 1880 were offered to young boys. To take one example of many, Gartsides Brookside Brewery did not employ a single child in this particular decade.[9] Most provincial brewers, like Flowers, took only two apprentices at a time. In addition, a few boys were hired to help feed draymen's horses; some boys arrived at the brewery as early as five in the morning to perform this task. Three or four remained for the remainder of the day to run errands, only a couple being kept on well into the evenings to take horses into the fields adjoining the brewery to graze as draymen

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[7]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, pp. 368-9.
[8]S. O. Nevile, *Seventy Rolling Years* (1958), p. 11.
[9]*Brewers' Journal*, 15 September 1887.

returned from their daily rounds.[10] In 1890, the brewery, in a report to the factory inspectors, listed only six employees under the age of eighteen.[11] More frequently, children were employed for short durations to carry out special seasonal tasks, such as kiln-pricking. Usually in the summer and under the supervision of an older maltster, boys, sometimes two dozen, armed with wooden-handled spikes removed the grains which lodged in the perforated tiles that lined a portion of the floors in brewery maltings.[12] Earning 5s. a week, some of these boys returned in consecutive summers and eventually secured themselves full-time employment at the brewery.[13] In general, however, due to the physical nature of brewery labour, recruits tended to be older and, more importantly, stronger.

Most boys who entered the brewery's service were employed in less labour-intensive office tasks. Almost every senior clerk had at least one young assistant. Moreover, the firm generated a considerable amount of paperwork which usually needed to be copied into ledgers, a task generally assigned to the youngest clerks. Locals have suggested, however, that these situations were not filled indiscriminately, as even these lowly office jobs usually led to more responsible positions. Over the years entry-level office posts remained the preserve of grammar school boys.[14] Some exceptions, such as Eddie Booker, who was hired in the cask office in 1917, suggest this was more imagined than real. In the decades since 1870, however, his appointment appears to have been an anomaly. Interestingly, the prevalence of boys in the office

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[10]Even these opportunities, however, had begun to decline by the end of the nineteenth century as green-meat became recognised as a luxury. Nevertheless, a number of brewers continued to turn out their horses, though usually only in summer, see C. Sheather, 'The Care and Management of Heavy Horses,' in *JIB* (1912), p. 642.
[11]SBTRO, DR 227/83
[12]*Ibid.*, especially 6 July-28 September 1883 and 1 July-30 September 1892.
[13]*Ibid.*, DR 730/36; and DR 227/83

ensured a healthy promotional system; this was not always the case in the brewery. Only with the commencement of bottling in the last decade of the nineteenth century were boys, irrespective of their education, regularly provided opportunities to join the firm, though many brewers continued to regard boy labour as 'uneconomical'.[15]

Even after brewers began to hire boys in order to staff their bottling departments, the average age of their workers had traditionally been higher than those recorded for most other occupations. In his survey of London labour, Charles Booth reveals evidence that suggests the average brewery worker was approximately thirty years of age, while the average labourer in his survey was approximately twenty.[16] Furthermore, he attributes this to the fact that strength was valued over skill in many of London's breweries. As evidence he suggests few workers in his survey were over the age of sixty. The average age of the eighty Flowers employees listed in the 1871 census is approximately thirty-two. If clerks, traditionally younger than other brewery workers, are excluded from this sample, the average approaches thirty-four years. In 1881, the workforce grew even older. The average age of one hundred and forty-seven brewery employees listed in the census exceeds thirty-five years.[17] A decade later the group gained twenty workers, and their average age increased by yet another year.

Given the limited number of boys recruited to the brewery, even after production increased in 1870, the firm relied on other sources of labour to meet the needs of expansion. Many workers who joined Flower & Sons during the last decades of the nineteenth century were either young adults who migrated into Stratford from its surrounding agricultural communities, or were recruited from other local businesses or

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[14]A. Hewins, *Mary, After the Queen* (1985), p. 14 and 24-6. This work describes class distinctions in Stratford during the interwar years better than any other history of the town; SBTRO, DR 730/15; and interview with Eddie Booker, 25 June 1996.
[15]Riley, 'Brewery Labour Problems,' in *JIB*, p. 149.
[16]C. Booth, *Life and Labour of the People in London*, III (1970), p. 114.

more remote breweries. While considerable numbers approached the firm, a phenomenon which allowed foremen to draw up waiting lists of prospective employees, managers sought their senior employees more directly.[18]

In the last decades of the nineteenth century, the populations of many rural parishes near Stratford began to decline. In census returns for the period, individuals aged twenty-five to thirty-five years comprise one of the smallest age cohorts in these parishes. While a steady flow of migrants had always come to the town in earlier centuries, many more young adults at the end of the last century sought out non-agricultural occupations. By the 1880s, farmers in parishes such as Welford, Long Marston and Pebworth, although devoted to cultivating the soil decades earlier, converted much of the county's land to pasture and, as a result, intensively farmed only a fraction of their properties by 1916.[19] Many farmers managed their estates with minimal help, at times limited to that provided by their own children.

Most brewery employees can be traced in local census returns. Not surprisingly, many were not born in Stratford, but in nearby rural parishes. Moreover, many who settled in Stratford were first employed in the brewery's stables and maltings, where they performed tasks familiar to their rural colleagues and certainly more suited to the skills which they brought to the trade. Others, however, had long since left rural occupations and, in the process, learned non-agricultural skills; some had never worked outside the town.

Although oral evidence from Stratford's residents suggests employers informally agreed not to poach each other's workers,[20] the brewery did, in fact, acquire

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[17]Clerks are included in this and the remaining samples.
[18]Hewins, *Mary, After the Queen*, p. 14.
[19]J. Reinarz, *A History of Dorsington* (1996), pp. 81-2; and *Stratford Herald*, 21 July 1916; 15 September 1916; and 13 October 1916.
[20]SBTRO, DR 730/25

many workers from local firms and even attracted some from distant breweries. Throughout the last decades of the nineteenth century, given the reluctance of many businesses to internalise methods of training, workers were often recruited from other firms where they learned basic rules of accounting, or practical managerial skills. Although some maltsters had been lured from Stratford's many independent malt houses, generally only supervisory posts were filled in this way. Very regularly, the brewery acquired clerks and even branch managers from banks and insurance offices. Foremen often came from other breweries, most having come to Flowers from Burton. Correspondence preserved in the firm's letter books reveals several employees' previous occupations in great detail. For example, in 1874, Charles Flower wrote to Frederick Kendall regarding the employment of Mr Parker as a subordinate accounting clerk.[21] The brewery received a favourable reply; Kendall attested to his employee's good character, behaviour and employment record, but, as was usual in such cases, the letter expresses disappointment, for most applicants did not inform their employers that they were seeking new posts.

Although having frequently played the role of the poacher, Flower & Sons lost several employees in a similar fashion. Workers who left the brewery, but remained in Stratford, frequently went to Kendall & Son, the town gas works, the police force, or one of the local brickyards.[22] Those forsaking office posts between 1870 and 1914 include a clerk who went to Kendalls, more-distant transfers to King's Heath Brewery and 'Reading bank' and one youngster who joined his brothers, shortly after coming to the brewery offices, to become an auctioneer.[23] Occasionally, the firm also lost the services of more senior staff members, such as James Stenhouse, who left Stratford for

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[21] *Ibid.*, DR 227/106
[22] SBTRO, DR 227/83

Burton in 1897;[24] Stenhouse had been acquired three years earlier from Bristol Brewery Georges & Co.[25]

While the brewery expended little effort locating willing labourers, most office posts and supervisory positions were advertised in local papers and even trade journals. Several existing letters which describe terms of employment to candidates are worded in a fashion which suggests vacancies were announced in print. Oral evidence from retired clerks also confirms that most of these openings were advertised in this way, but usually only in local papers. Given the average age of candidates, however, most boys who applied for office positions were informed of vacancies by their parents, who read newspapers more regularly.[26]

Nevertheless, one must not overlook the ingenuity displayed by the trade's younger members when seeking employment. Sydney Nevile, for example, although offered a permanent position by the firm where he received his initial training, recognised he possessed only firm-specific skills and, wishing to learn the trade as practiced in another brewery, advertised for work on the last page of the *Brewers' Journal*, a site where brewers usually posted openings for apprentices.[27] Moreover, much information regarding vacancies was transmitted through informal, often circuitous oral networks, which allowed applicants to choose the optimum moment to approach a firm in order to request work. In many cases applications for travellers' positions came from individuals who worked in retail establishments and were privileged with an early form of 'insider information'. On such an occasion in 1885, the managers of Dutton & Co., the Coventry brewers, received a letter from a customer

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[23]*Ibid.*; and DR 227/98-99
[24]*Stratford Herald*, 26 February 1897.
[25]SBTRO, DR 227/110
[26]*Ibid.*; and interview with Eddie Booker, 25 June 1996.
[27]Nevile, *Seventy Rolling Years*, pp. 29-30.

who, although he could continue to order the firm's ale by post, wished to become the brewery's representative for his neighbourhood soon after the usual traveller had relinquished his post.[28] Whether this enterprising individual was rewarded by Duttons with a job offer is not recorded. Given the spelling of the letter, the firm may have withheld such an offer until a more literate candidate could be discovered.

Once offered a position at a brewery, newly-recruited employees usually received some form of training. Rarely, however, were periods of instruction well-organised or entirely systematic. Only in exceptional cases were training schemes entirely 'in house'. Training, when available, was fragmented, given on the job, and involved employees learning by watching their superiors or even working out tasks for themselves.

Even the most privileged of employees rarely received training appropriate to the roles they were to fulfill within the firm. Rather than study business subjects, brewers' sons often received a classical education at Oxford and Cambridge. A literary education was seen to be an important part of every industrialists' background.[29] Given the enduring nature of these practices, economic and business historians have often criticised the training of British entrepreneurs.[30]

Not surprisingly, many brewers' first apprentices were their own sons; this was the case at Flowers. Although Charles Flower entered the family brewery in 1845 to

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[28]Coventry City Record Office (CCRO), 919/2/20

[29]Musson and Robinson, *Science and Technology in the Industrial Revolution*, p. 207. Despite recent criticisms of this practice, Horace Brown, one of the most respected chemists working in the brewing trade at this time, often spoke of the advantages conferred by a 'thorough classical, literary, and mathematical education'. In a lengthy article published by the *JIB* in 1916, Brown suggested such an education was a necessary balance to scientific training. If given a choice between these forms of instruction, he favoured that of the *literae humaniores*, see Brown, 'Reminiscences of Fifty Years' Experience of the Application of Scientific Method to Brewery Practice,' in *JIB*, p. 345.

[30]See, for example, Chandler, *Scale and Scope*, pp. 292-3; Wiener, *English Culture and the Decline of the Industrial Spirit*, pp. 22-4; M. LeGuillou, 'Technical Education, 1850-1914,' in G. Roderick and M. Stephens (eds), *Where Did We Go Wrong?* (1981), p. 173; Pollard, 'Entrepreneurship,' in

receive his formal training as a brewer, his education had begun much earlier. After attending several grammar schools in the Midlands, including one in Edgbaston and King Edward VI School in Stratford, Charles Flower lived for a year in the London home of a family friend, Philip Rathbone, who became 'his model of an English gentleman'.[31] As was usual among students of his age, Flower learned little which directly related to business. An active participant in Rathbone's social circle, he learned the importance of music and dance; years later, Charles still used his spare time in the brewery to practise music.[32] He stayed with the Rathbones until 1845, when he returned to Stratford and was brought into the family firm by his father.

Usually only after having received a liberal arts education did brewers' sons acquire a knowledge of brewing, and then only by practising tasks in the brewery. This general introduction to business was characteristic not only of brewers, but was the accepted practice in numerous other vocations. In his study of Lancashire cotton communities, Patrick Joyce suggests factory owners regularly introduced their sons to the trade by putting them 'through the mill'.[33] Among potters, a similar system flourished. Josiah Wedgwood insisted his sons be educated in this manner to ensure they were able to conduct his business successfully.[34] Most brewers were also convinced this practice offered innumerable benefits.

When Charles Flower learned to brew, he began at the copper side. From there he 'went through the brewery under the direction of [his] father'.[35] At this time the firm brewed approximately three times a week. According to Charles, this left him with

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Floud and McCloskey (eds), *The Economic History of Britain Since 1700*, pp. 75-6; and A. Godley and O. Westall (eds), *Business History and Business Culture* (1997), p. 192.

[31]Flower, *Great Aunt Sarah's Diary*, p. 4.

[32]*Ibid.*, p. 5.

[33]P. Joyce, *Work, Society and Politics* (1982), p. 24.

[34]Pollard, *The Genesis of Modern Management*, p. 109.

[35]Flower, *Great Aunt Sarah's Diary*, p. 4.

plenty of time for office work. He collected cash from customers, kept the firm's account books and even did some of the brewery's travelling.[36] In October 1846, when Edward Flower left Stratford to visit relatives in America, the firm was left entirely in Charles's hands. During this time he learned the 'necessity of managing'.[37] A year later he was sent for a month to stay with Edward and Oswald Fordham, relatives in Hertfordshire, who owned the Ashwell Brewery, to study their methods of brewing and malting.[38] As a result of this particular form of training, by the time Charles Flower retired, he could claim he had 'worked in all areas of the brewery' and 'done a part of all the work'.[39]

Charles Flower's experiences were similar to those of other nineteenth-century brewers. Alfred, son of John Izzard Pryor, the well-known Hertfordshire brewer, entered his family's firm a decade before Charles Flower began brewing in Stratford. Although his education included lessons in mathematics, mensuration, accounting, surveying and the use of globes, his father also advised him to resume his interest in dancing.[40] Moreover, like Charles, Alfred Pryor spent time in another firm in order to learn general rules of business administration. Instead of remaining in England, however, he worked in Hamburg for two years with Abel Smith, a friend of the family. Eventually, Alfred entered the family's Baldock brewery, not far from the Fordhams' Ashwell Brewery, where he acquired 'a knowledge of the Brewery Department by getting up to brew with Mr Tranter [the head brewer]'.[41] Shortly afterwards, John Izzard Pryor, on one of many visits to the brewery, was pleasantly surprised to see

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[36]*Ibid.*
[37]*Ibid.*, p. 6.
[38]*Ibid.* Despite the family connection, contact between the Fordham and Flower families was irregular after Charles's visit to the firm.
[39]*Stratford Herald*, 20 July 1888.
[40]G. Curtis, *A Chronicle of Small Beer* (1970), p. 25.
[41]*Ibid.*, p. 31.

Alfred 'with his apron on looking like a brewer'.[42] Another of Charles Flower's contemporaries, Edward Greene, appears to have been introduced to the family's firm in a similar manner.[43]

Approximately three decades later, Archibald Flower entered the brewing trade in a way not dissimilar to Alfred Pryor and his uncle, Charles Flower. However, unlike both Charles and Alfred, Archie studied at Cambridge. Rather than study business subjects - most sons of entrepreneurs knew from an early age they were to assume control of their families' businesses - Archie, like many other brewers' sons of his generation, studied the classics. William Blackall Simonds's grandsons, Archie's contemporaries, both received training not directly related to the positions they assumed at the family's Reading brewery; Henry John was a lawyer and fellow of King's College, Cambridge and George Blackall studied sculpture in Dresden and Brussels, both admittedly excellent schools of fine art.[44] Over time, this practice also appears to have endured. The last director of the Flower firm, also a graduate of Cambridge, studied science, though nothing remotely related to brewing. Only after his capture by German troops in 1941, did Dennis Flower prepare for and pass examinations set by the Institute of Brewing, in order to alleviate some of the boredom which went with being a prisoner of war.[45]

Despite Charles Flower's haphazard training, employees who joined the brewery after 1870 had the benefit of a more standard form of apprenticeship. Over a few decades, the rudimentary training given to Flower had developed into a systematic training programme, affording pupils a comprehensive introduction to the trade. The specific nature of this apprenticeship as practised at the brewery is revealed in copies of

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[42]*Ibid.*, p. 32.
[43]Wilson, *Greene King*, p. 61.

letters written by the firm's owners and managers to the parents and guardians of brewing pupils.

Not all breweries could contemplate the establishment of such a programme. Although members of the general public knew little about commercial brewing, many recognised a firm's size was of some importance to an apprentice's education. While pupils in a small firm could be expected to receive considerable attention from their masters, those in medium-sized firms had the additional advantage of modern machinery and more up-to-date methods.[46] Not nearly the size of the largest London and Burton breweries, Flower & Sons did have qualities which ensured a steady flow of apprentices after 1870. For a provincial brewery, located in a region not traditionally associated with brewing, its production facilities were very advanced. The brewery introduced refrigeration technology to production much earlier than most breweries, whether in town or country. Moreover, by 1878, the firm had installed pneumatic malting facilities. While another provincial firm, Steward & Pattesons, introduced a more advanced malting process during the 1907-8 brewing season, many other firms did not even produce their own malt.[47] Flowers almost always had. As a result, pupils regularly came to the brewery. Between 1870 and 1914, approximately thirty brewing pupils were apprenticed in Stratford.

Flower & Sons' apprenticeship programme proved a successful one and received the assent of many distinguished brewing families. Between 1870 and 1914, the brewery hosted the sons of several prominent English brewers as pupils. Even though Flowers had lost the London brewer's pale ale contract a year earlier, in 1887,

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[44]Pudney, *A Draught of Contentment*, p. 96; and Barnard, *The Noted Breweries*, IV, p. 10.
[45]Interview with Dennis Flower, 1 August 1996.
[46]Dearle, *Industrial Training*, pp. 347-9.
[47]Gourvish, *Norfolk Beers from English Barley*, p. 83.

Robert Courage sent his son to the brewery as an apprentice.[48] Four years later, one of the firm's directors, Stephen Moore, wrote to Spencer Charrington to inform him that his son had been accepted as a pupil.[49] Finally, in May 1899, Charles Tetley requested a place for his son due to the firm's modern facilities.[50] Although more personal than communications with the average apprentice's parents, the fees and conditions which governed agreements with acquaintances were no different from those made with absolute strangers. Business arrangements between relatives were also subject to strict regulation, 'for fear of misunderstanding'.[51] If anything, the approval received from other brewers may have inflated the cost of training and discouraged the brewery's directors from lowering their apprenticeship premium until the last decade of the nineteenth century.

Compared to the instruction offered most tradesmen, a brewing apprenticeship was expensive, and had always been so. Apprenticeship fees listed in the 1725 Register of Apprenticeship Bindings of the Brewers' Company regularly approach the £200 figure.[52] Some pupils paid £300, one as much as £500.[53] A brewer's training was among the most expensive apprenticeships. It ranked alongside those of bankers, apothecaries, merchants and jewellers.[54] For much of the second half of the nineteenth century Flower & Sons demanded a premium of £400, half of which was to be paid when a pupil was accepted, the remainder when the period of training had been completed. In 1892, the firm made its first exception. In response to complaints from Henry B. Burton, the firm accepted a pupil for £300. By 1894 further criticism reduced

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[48]SBTRO, DR 227/110
[49]*Ibid.*
[50]*Ibid.*
[51]*Ibid.*, DR 227/106
[52]Mathias, *The Brewing Industry in England*, p. 23.
[53]*Ibid.*, pp. 23-4.
[54]Lane, *Apprenticeship in England*, p. 23.

the fee to £200; this premium endured less than ten years. On 17 February 1903, Victor C. Best became a pupil for £100.[55] Improvements in technical education, competition in the trade and the brewery's need for instant capital had reduced the cost of a brewer's training to a quarter of its original sum in just over a decade.

From a very early period, individuals considered apprenticeship fees to be too exorbitant. In response to claims that fees were too high, Charles Flower informed Mr Cutler, whose son, Rupert, came to the firm in 1886, that the firm had never taken less, even when pupils wished to stay for only a few months. Moreover, the trade was not flooded with apprentices. Cutler was informed that Flowers did not take on pupils indiscriminately. Few were accepted and parents were assured their sons would associate only with men of superior quality.

Less-critical clients paid the first installment of a premium only to realise they could not afford a second payment. As this occurrence became more frequent, the firm made their method of payment more flexible. When notified that Revd Brodie could not afford the second of his son's premiums, the brewery's managers immediately made alternative arrangements. As had been decided in the past, the directors permitted Wyndham Charles Brodie to work off his outstanding debt; he was offered the positions of brewer or bookkeeper at a rate of £105 a year. Similar arrangements were made in 1876, when the firm offered Arthur Fagge, son of Aston Cantlow's vicar, a salary of £150 a year to help in the brewery offices. Of this salary, £100 was to be deducted in the first two years. Were he to prove satisfactory in this post, Fagge would be refunded £100 in his third year. While the firm's generosity appeared

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[55]SBTRO, DR 227/110. The last correspondence contained in the private letter book is dated 9 June 1904. Letters do not refer to pupils after Best's arrival. Consequently, arrangements governing brewing apprenticeships after this date are unknown.

limitless, should debtors have refused these offers, full payment was demanded; usually such drastic measures were avoided.

As with insolvent guardians, the brewery did not tolerate apprentices' indiscretions. In November 1878, the firm's proprietors were informed by C. L. Stephens that one of their pupils had suffered certain undescribed 'misfortunes'.[56] Quite possibly having speculated unwisely, a former student, unable to find employment, could not repay his debtors and requested the firm refund his premium. This, however, the managers were unwilling to do. Instead, they advised Stephens to use his influence in order to help the pupil obtain a position at Allsopps, the Burton brewers. Alternatively, the firm was willing to lend him some money, but only if the pupil's creditors paid half his debt and the pupil worked off the rest. The directors regarded the former solution to be the better, for, after such a poor display of initiative, the student needed to demonstrate that he could 'make himself a capable man of business'.[57]

The flexible nature of apprenticeship arrangements had much to do with the way in which young men were indentured. Traditionally, most apprenticeships involved pupils entering written contracts; at Flowers, as at other firms, such as Watneys, apprentices entered the brewery's service by way of an oral agreement.[58] Luckily for the historian, however, correspondence concerning these arrangements are recorded in Flower & Sons' letter books. Not surprisingly, given their informal nature, details could vary with each case. After an initial letter of introduction, the brewery invited prospective pupils and their parents or guardians to the brewery to view the premises and meet the owners and managers. As one would imagine, only those issues which

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[56]SBTRO, DR 227/106
[57]*Ibid.*

arose during the ensuing discussions were addressed by the firm. If parents were satisfied with what they saw and heard, and the brewery had room for an additional pupil, a young man would be taken on, and then only after an initial payment was made. Although a receipt was issued by one of the brewery managers, no written contract outlining an apprentice's duties or the firm's obligations was drafted. When questioned on this matter in 1899 by Charles Tetley, whose son had recently begun an apprenticeship, the directors stated that never in the past had they issued any form of agreement.[59] While such inquiries led them to describe the duties of apprentices more thoroughly, by not radically changing existing arrangements, or ever drafting a contract, the brewery maintained a very flexible system of instruction for many more years.

In her survey of English apprenticeship, Joan Lane suggests apprentices in the eighteenth century had traditionally been dependent on their masters for food, shelter and clothing.[60] In this sense, brewing apprenticeships were not traditional. William Hawkes, one of the earliest pupils to come to the firm, lived in Edward Flower's home.[61] Pupils who came to Stratford after 1870, however, lived in lodging houses located in the town. The 1871 census lists Arthur Fagge as a lodger in the home of Hannah Osborne. In the same year, Francis Lawrence Talbot, together with a young bank clerk, Charles Hensmen, lived in the home of Thomas Kite, a local printer. A decade later, conditions appear much the same. One of the firm's apprentices, Gilbert Thwaites, who became one of its directors years later, lodged with Thomas Pearson, a railway passenger guard, for the duration of his tutelage. Perhaps, given the cost of

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[58]*Brewers' Journal*, 15 July 1898. The London brewers also charged pupils £200 for an apprenticeship lasting two years.
[59]SBTRO, DR 227/110
[60]Lane, *Apprenticeship in England*, p. 2.
[61]Flower, *Great Aunt Sarah's Diary*, p. 1.

apprenticeship, the firm's directors believed private accommodation was something most pupils' families would provide without hesitation. Most brewers' apprentices, on the other hand, probably desired the independence their wealth afforded them.

Only if lodgings were not immediately available when they first arrived in Stratford did pupils live a few days in the homes of the brewery's owners or managers. For example, Mr Aikenson's son spent his first night at the brewery house with head brewer, and one-time pupil, Francis Talbot.[62] Three years later, in 1886, Charles Flower wrote to Mr Cutler to inform him that his son was welcome to stay with him at Avonbank until more suitable accommodation could be found.[63] This, however, is the same Cutler who questioned the brewery about the size of its premium, and, in this respect, Flower's concessions may have been made to appease a particularly difficult parent.

Despite not taking pupils into their homes, brewery owners and managers did take an interest in pupils' routines outside the brewery. Of particular concern to brewers were their apprentices' moral standards. In a letter written in 1876, Archibald Park, a brewery manager, informed the father of a pupil that his son had formed 'some very undesirable acquaintance'.[64] Interestingly, Park also reveals this to have been Charles Flower's observation. It is likely that Flower had always exercised influence over pupils' relationships. Ten years later, he assured the father of a prospective apprentice that his son would not 'become intimate with anyone but gentlemen'.[65] On another occasion, in 1878, the firm wrote to Mr W. Nelson, the father of a pupil whose progress was anything but satisfactory. In particular, the directors were least impressed with the boy's lack of attention while at work in the brewery. Consequently, he was

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[62]SBTRO, DR 227/110
[63]*Ibid.*

encouraged to 'buy and keep a horse and so get a certain amount of active healthy exercise instead of too much really idle time on his hands'.[66] In this sense, although the firm was rapidly becoming one of the larger, more successful provincial breweries, personal relations between master and apprentice suffered less than one would have expected; contact between the two was not reduced. What had reduced over the years, however, were pupils' periods of instruction.

Although covering a wide range of activities, instruction at the brewery was relatively short compared to traditional apprenticeships. By 1870, breweries had replaced apprenticeship time, the lengthy period during which boys were introduced to tasks and given adequate time to practise and perfect their new skills, with learning time, which provided pupils merely with instructions essential to developing an understanding of the trade. According to Charles More, who has written extensively on workers' skills and training, the average apprenticeship in 1870 lasted five years.[67] Most masters regarded twenty-one as the appropriate age for an apprentice to finish his education; longer periods of instruction had been common in breweries years earlier. In 1848, Edward Kelsey, one of Edward Flower's first pupils, arrived to begin an apprenticeship which he completed in 1855.[68] By 1870, however, no pupils stayed more than two years with the firm unless offered employment after their periods of instruction were successfully concluded. At other breweries, such as Reid's in London, apprenticeship also lasted only two years.[69]

After the training period was shortened, the ages of apprentices naturally increased. According to the 1871 census, Flower & Sons' pupils, Arthur Fagge and

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[64]SBTRO, DR 227/106
[65]*Ibid.*, DR 227/110
[66]*Ibid.*, DR 227/106
[67]More, *Skill and the English Working Class*, pp. 70-1.
[68]SBTRO, DR 227/140

Francis Talbot, were seventeen and nineteen years of age, respectively. Gilbert Thwaites, who began his training ten years later, was also nineteen when he was instructed in brewing. The ages of no other apprentices are recorded in the censuses or correspondence books. Should these samples be representative of the entire group, however, it almost seems inaccurate to group brewers' apprentices among traditional boy labourers. Most enjoyed financial independence, their own accommodation and membership in a social circle comprising older, 'respectable' members of the brewing trade.

The type of instruction reserved for young brewers set them apart from boys engaged in other late nineteenth-century trades. The Webbs' model of apprenticeship, for example, is very pessimistic. They suggest apprenticeship during this period became a form of 'ritual servitude', as do the works of their contemporaries who framed the subject in relation to the question of boy labour.[70] Working in an 'age sensitive to its social diseases', these social reformers predominantly addressed the institution's abuses, of which there were many.[71] Such practices, however, were rarely found in breweries. Although many industrial apprentices were assigned unskilled and demeaning work, brewing apprentices learned an array of skilled tasks, both in the brewery and its offices. While many would have learned the importance of scouring brewing vats, this task was carried out by brewery labourers. The firm assured parents

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[69]H. Janes, *The Red Barrel* (1963), p. 129.
[70]G. Howell, 'Trade Unions, Apprentices, and Technical Education,' in *Contemporary Review*, XXX (1877), p. 72; and More, *Skill and the English Working Class*, p. 47. In the printing trade, for example, apprenticeship was regarded as a way for masters to obtain cheap labour. For a complete description of this argument see T. A. Skingsley, 'Technical Training and Education in the English Printing Trade,' in *Journal of the Printing Historical Society* (1979) and (1980).
[71]Dunlop and Denman, *English Apprenticeship and Child Labour*, p. 309.

and guardians that a generous premium entitled a pupil to learn 'all the knowledge [the firm was] able to impart'.[72] Apprentices would learn 'everything except experience'.[73]

This, however, did not imply that pupils were free of strict duties. In a letter to Charles Doggett dated February 1883, Charles Flower claims the firm had 'enough of pupils who think they can just look on at their own time and convenience'.[74] Pupils had regular duties and hours. Though rarely described in letters, these duties were clearly laid out in writing when the firm accepted Wyndham Charles Brodie as a pupil. Charles Flower assured Brodie's father that his son would be instructed in 'every branch of our business in all its details, including brewing, malting, cooperage, sales and bookkeeping'.[75] When the time came for a pupil to learn the malting process, for example, instruction would 'consist of following the maltster round, listening to him + pick up information'.[76] Another pupil, George Fellows, accompanied the brewery's head maltster when he purchased barley at the local corn exchange. On such occasions Fellows was instructed on the most important features to look for when buying a sample of barley.[77] This task, among other duties, comprised a day which started at nine and ended at five.[78]

While apprentices learned a wide array of subjects, the brewery never provided a great deal of scientific training. Although the firm encouraged pupils to attend courses which taught the elementary principles of chemistry, few did so. Many appear to have had little time for such classes. Those pupils instructed at the brewery between

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[72]SBTRO, DR 227/106
[73]*Ibid.*
[74]*Ibid.*, DR 227/110
[75]*Ibid.* Although Brodie learned about the cooper's work, he was not permitted to perform it himself. Coopering had been protected by legislation in England at an early date in the Act 23 HVIIIc.4.
[76]SBTRO, DR 227/110. These details were described in a letter dated 30 May 1899 from Francis Lawrence Talbot to Charles Tetley.
[77]This topic is outlined in greater detail in the previous chapter.

1889 and 1899 may have received some scientific instruction from resident chemist Joseph O'Connor, but only rarely was a chemist included among the brewery's regular staff. Occasionally, however, pupils were recommended to acquire some scientific knowledge outside the firm. This was the case in May 1867 when Charles Flower wrote to Mr Brooke to inform him his son had been accepted as a pupil at the brewery. After outlining the usual apprenticeship terms, Flower stressed the importance of a chemistry course to those wishing to learn the trade.[79] Arrangements were made for Brooke's son to attend classes with Dr Attfield, who had the use of a laboratory, to learn 'all that [was] necessary' in order to understand the science of brewing.[80] Similar arrangements had been made in 1870 for Revd J. B. Brodie's eldest son, Wyndham Charles. He was to be instructed in brewing by Dr Agar, with whom the brewery had made a separate agreement.[81] Surprisingly, however, this was also the last occasion the brewery made provisions for a pupil's scientific training.

Other breweries advised pupils to attend similar classes, such as were offered at Sir John Cass Technical College, set up under the instigation of the Brewers' Company, and Finsbury Technical College.[82] However, as chemistry courses offered by colleges and universities rarely touched on the subject of brewing, such instruction

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[78]SBTRO, DR 227/110. Fellows's progress was reported in an anonymous letter to his father dated 1 December 1902.

[79]*Ibid.*, DR 227/106

[80]*Ibid.*

[81]SBTRO, DR 227/106

[82]Knox, *The Development of the London Brewing Industry*, p. 150. Other universities and colleges which provided courses relevant to brewers included King's College, London, where Dr R. T. Hewlett gave courses in bacteriology, University College London, whose Demonstrator of Applied Chemistry, Alfred Chapman, carried on a series of lectures commenced by Charles Graham and the Manchester Municipal School of Technology which received a model brewing plant in 1903 in order to aid the instruction of pupils, whose numbers reached fourteen in that year, see *Brewers' Journal*, 15 February 1903. Heriot Watt's now well-known laboratory for research in bacteriology and fermentation was opened in 1905 under Dr Emil Westergaard, see *Brewers' Journal*, 15 August 1905; 15 October 1905; and 15 November 1905.

frequently had to be sought elsewhere.[83] By visiting other breweries, pupils became acquainted with alternative brewing methods, but not always scientifically-trained brewers. Of course, a few Burton breweries provided exceptions to this rule, as did Lewis Clarkes' Worcester Brewery where J. Ross Mackenzie, a Fellow of the Royal Microscopical Society, trained a number of successful pupils in the first decade of the twentieth century. Most wishing information concerning fermentation, malting, or even the proper storage of raw materials generally attended classes like those run by Drs Agar and Attfield.

Although few London brewers took apprentices, most of the chemists who contributed to the trade's journals established laboratories in London where they instructed brewing pupils. Gordon Salamon, E. R. Moritz and Messrs Gillman & Spencer were only the best-known of the consultant chemists offering these services. Apparently many attended their classes, for all three enlarged their laboratory facilities in 1885. In this year, E. R. Moritz extended his offices in order to build a model brewery where students could conduct experimental observations.[84] Moreover, these services were not restricted to London. Chemists who taught the science of brewing opened laboratories in most large cities throughout the country during this period. Alfred H. Allen of Sheffield, Messrs Shutes & Co. of Derby, Frank Faulkner and R. D. Loveless, both of Birmingham, all worked closely with midland brewers, and, while providing many with raw materials and technical advice, equipped some apprentices with a sufficient knowledge of chemistry to understand the brewing process.[85]

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[83]Most of the chemists active in the trade during the middle of the nineteenth century had obtained their chemical knowledge by attending classes at the Royal School of Mines shortly after it was set up in 1850 to train mining inspectors, see, for example, entry for O'Sullivan in *DNB*.

[84]*Brewers' Journal*, 15 December 1884.

[85]By the 1890s, the list of chemists who offered to instruct brewing pupils appeared endless. Just some of those consultants who provided these services included Basil William Valentin F.C.S. in Birmingham, Messrs Matthews and Lott and Frank Thatcher in Burton, Drs A. K. Miller and W. L.

Although almost all brewers were convinced of the valuable services such chemists provided, many believed the nation really needed a brewing school, as existed in numerous continental cities. For example, those who attempted to gain a recognised qualification, as could be obtained by sitting the examinations of the City and Guilds Institute of London since 1880, usually had little choice but to prepare themselves.[86] Consequently, of the 25 candidates who sat examinations in 1890, only five passed.[87] A year later, although a greater number of candidates passed, more than 60 per cent still failed and most continued to be 'very badly prepared' for the remainder of the century.[88] Moreover, while brewers were frequently praised for building cathedrals and parks, members of the trade could not understand why technical education still lacked a patron.[89] Not wishing to minimise the contributions consultant chemists made to brewing, commentators rightly argued that chemists could not teach students all that was required to run efficient breweries.[90]

In 1900 the industry came much closer to achieving this goal. Due primarily to funds provided by the Birmingham Brewers' Association, Mason University College, a university 'founded by business men for business men',[91] opened the nation's first

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Hiepe in Manchester, and F. W. Fellowes, the Newland brothers, Arthur Ling, Messrs Jewson and Senior (formerly of Gillman & Spencer), all originally based in London. A few fortunate pupils even took courses offered by Professor Alfred Jörgenson at his Carlsberg laboratory in Copenhagen, see *Brewers' Journal*, 15 July 1894.

[86]Interestingly, a number of consultant chemists who instructed pupils in chemistry as it applied to the brewing trade had largely educated themselves. For example, Gordon Salamon had established a laboratory in his father's house and Adrian Brown cultivated barley in his own garden, see, for example, their obituaries in *JIB* (1918) and (1919), respectively.

[87]*Brewers' Journal*, 15 November 1890.

[88]*Brewers' Journal*, 15 November 1891; and 15 October 1898.

[89]*Ibid.*, 15 July 1885.

[90]See, for example, J. E. Bowley, 'The Consulting Brewer, his Dangers and his Uses, with some Practical Brewing Notes,' in *JFIB* (1896).

[91]Hodson during 'Meeting of the Midland Counties Institute of Brewing, 18 January 1900,' in *JFIB* (1900), p. 88; and *Brewers' Journal*, 15 July 1898. Birmingham brewers contributed approximately £20,000 to the scheme. Many other midland brewers, however, also contributed to the school under a scheme known as the Birmingham University Fund. Flower & Sons, for example, donated the standard £250, divided into five equal payments made over five years, see SBTRO, DR 227/10; and *Brewers' Journal*, 15 October 1899.

brewing school. Soon after Adrian J. Brown was appointed the school's first professor of brewing, the department welcomed eighteen students, sixteen 'working at brewing, one at malting, one at vinegar brewing'.[92] Five pupils enrolled in the school's three-year diploma course, the others opted for shorter, more specific training periods. While a laboratory had been completed in time for the centre's opening ceremony, an experimental brewery, like that constructed by E. R. Moritz, was still in its planning stages. Nevertheless, from its inception, brewery owners believed the project heralded the age of a scientifically-trained rank-and-file. Instead of one or two scientists on brewing staffs, leaders in the industry predicted 'ten or a dozen'.[93]

Conditions in breweries were more resilient than expected; changes were not just slow, but, in most midland breweries, unapparent. Until most head brewers had undergone a similar training to that offered at Birmingham's new brewing school, recent graduates had little chance of influencing brewing practices in the trade. Generally, senior brewers believed scientifically-trained pupils became over-confident. As was common in other branches of industry, traditionally-trained employees feared those who received a formal technical education prior to entering their trades. Those most critical of recent educational developments saw no need for 'the youthful enthusiast to fire off all his "college" knowledge at the older man's head'.[94] Instead, the new generation of university-educated brewers was to give its opinion only when asked.

Hostility exhibited by traditionalists towards new recruits naturally did not improve enrollment at Birmingham University's School of Brewing, or at other

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[92]Hodson during 'Meeting of the Midland Counties Institute of Brewing,' in *JFIB* (1900), p. 91. In comparison, Berlin's brewing school attracted 32 when it opened in 1883, 42 in 1890, see *Brewers' Journal*, 15 May 1890. Like the Birmingham school, it had an experimental brewery, but its students were chiefly older men, brewers and managers.
[93]*Ibid.*

institutions for that matter. An already negative message was merely reinforced when it became clear that a diploma did not guarantee a job, let alone a promotion.[95] Few members of the trade, including Flower & Sons' own head brewer, believed brewers could be 'educated [solely] in the laboratory'.[96] Educational developments, however, do appear to have raised the standards of brewing pupils. Perhaps this is most evident in the examination results returned by members of the City and Guilds Institute in the first years of the twentieth century. For example, in 1901, the chief examiner of the London Institute's board reported that 70 per cent of brewing candidates had passed.[97] Nevertheless, most were still not instructed in the management of breweries, even when brewers had greater control over what was being taught at these institutions. Although the Flower family funded Stratford's own technical college, brewing was never incorporated into the school's curriculum; its instructors taught primarily shorthand, typewriting and bookkeeping under the rules of the Midland Counties Union.[98] As a result, managerial skills could be acquired only practically, as done by Charles Flower fifty years earlier. Most who requested literature on the subject from trade journals were informed that such skills could still be learned only when one 'passed through...the fire'.[99] Furthermore, the brewing school at Birmingham suffered from its own problems, many of which were directly related to politics within the brewing industry. While the majority of brewers believed it disgraceful a school had not opened earlier, not all lent it their support once it had been established. As Charles Flower realised two decades earlier when he successfully organised the construction of

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[94]W. Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB* (1902), p. 131.
[95]*Brewers' Journal*, 15 February 1898.
[96]Talbot, 'Fifty Years' Experience of the Quality of Beer,' in *JIB*, p. 405.
[97]*Brewers' Journal*, 15 June 1901. Three years later only 15 per cent of candidates failed, see *ibid.*, 15 November 1904.
[98]*Stratford Herald*, 9 February 1900; and 25 May 1900; Interestingly, in its first years, the school did not have sufficient subscriptions to carry out the whole scheme.

the Royal Shakespeare Theatre, many people believed such grand projects should and could only be undertaken in and by residents of the nation's capital.[100] Reiterating words familiar to inhabitants of many midland towns, H. Cosmo O. Bonsor, M.P., at the school's official opening, expressed his regret that the ceremony could not have taken place in London.[101] C. Howard Tripp, on the other hand, resigned as vice-president of the midland branch of the Institute of Brewing to protest at the school's foundation, which he believed would flood the trade with brewers.[102] Naturally, temperance advocates also resented such developments. In response to Adrian Brown's new Professorship in Brewing at Birmingham, Mrs Arthur Bertrand Russell, sister-in-law of Earl Russell, initiated a campaign to raise funds in order to create a 'chair of Temperance' at the University of London.[103]

Despite the existence of many vocal, some acerbic, critics, technical training had its important advocates. Sydney Nevile was one of many London brewers who supplemented his practical knowledge with the theoretical training offered by academic institutions, such as Brighton Technical College.[104] Although he admittedly suffered from a lack of confidence due to never having attended university, Nevile continued taking courses offered by consultant brewers for much of his life. Twice a week he travelled to John Heron's laboratory in London.[105] Arriving in the early afternoon, he learned about the latest methods of scientific control, adjourning to dinner with other 'enthusiasts' at approximately nine, presumably to talk about brewing for several

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[99]*Brewers' Journal*, 15 June 1884.
[100]M. Pringle, *The Theatres of Stratford-upon-Avon* (1994), p. 14; and S. Beauman, *The Royal Shakespeare Company* (1982), pp. 13-14.
[101]Hodson during 'Meeting of the Midland Counties Institute of Brewing,' in *JFIB* (1900), p. 92.
[102]*Brewers' Journal*, 15 January 1900.
[103]*Brewers' Journal*, 15 August 1901.
[104]Nevile, *Seventy Rolling Years*, p. 29.
[105]Heron established his consultancy in London in 1895. Originally educated at the Royal College of Chemistry, Heron was an assistant to Horace Brown at Worthington's before being appointed head

additional hours.[106] Arthur Hadley, head brewer at Bristol Brewery George's & Co. in the first decades of this century, similarly spent his days investigating the scientific aspects relating to his trade, though no evidence suggests he ever dined with Nevile in London. Apprenticed to Birmingham brewers Mitchells & Butlers at their Cape Hill Brewery, where he became 'a competent and reliable Brewers' analyst and Microscopist', Hadley passed the City and Guilds' examinations with the highest honours in 1893, before becoming head brewer at Carmarthen United Breweries Ltd, Dyfed, J. T. & J. Toohey Ltd in Sydney, Australia and, ultimately, assuming the equivalent post at George's in Bristol.[107] His brewing books record many of the experiments, machinery and plant designs he made during his career.[108] Moreover, numerous pages record the advice he received from consultant brewers, whose notes Hadley often laboriously analysed and reworked to his own advantage. Both brewers' lives clearly represent the oft quoted, but not always adequately demonstrated, adage that one's education never ends.

Although unwilling to incorporate scientific training into their apprenticeship programme, managers at Flowers appear to have understood the importance of periodically updating an education. For example, in a letter to J. Bonham Carter dated 3 August 1880, Charles Flower explained the way in which legislative changes affected apprenticeship. Changes in excise laws, Flower claimed, meant Bonham Carter's son

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chemist to the Anglo-Bavarian Brewery in 1883 and Garton, Hill & Co. in 1885, see Heron's obituary in *Brewers' Journal*, 15 April 1913.
[106]Nevile, *Seventy Rolling Years*, p. 39.
[107]Courage Archives (CA), CA/C/221-3; *Brewers' Journal*, 15 August 1893; 15 August 1894; and 15 October 1899.
[108]CA, CA/B/8

needed 'to learn [the] trade afresh'.[109] Moreover, the firm's own staff was consistently prompted to relearn its craft due to the passage of legislation between 1870 and 1914.

Widespread acceptance of this belief led many established brewers to take advantage of Flower & Sons' training scheme. Consequently, not every pupil who came to the brewery did so to learn all aspects of the brewing trade. Many were improvers. As the name implies, these individuals had already received some form of training, however, later in their careers, realised they required additional instruction in aspects of the trade, perhaps due to technological innovations, or the lack of particular facilities at the breweries where they had completed their apprenticeships. George Fellows, for example, came to the brewery for twelve months starting in September 1901, but did not wish to learn any office work.[110] Although such people received less-extensive training, or stayed at the brewery for shorter lengths of time, they paid the same fees as other apprentices and were subject to conditions resembling those of other pupils. In 1871, the firm described the case of an improver, who stayed at the brewery for only fourteen days after paying the usual fee. For this reason, however, it was also understood that the brewer could, in the future, regularly call on the brewery for assistance free of charge.[111]

Throughout this period, Flower & Sons realised a successful apprenticeship programme could also be a liability. Although hosting many pupils and improvers, the firm had traditionally attempted to keep their methods secret. In 1867, when arrangements were made to accept Mr Brooke's son as a pupil, Charles Flower demanded he promise not to 'impart to any one what he may learn that is peculiar to

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[109]SBTRO, DR 227/106. The most influential of such changes during this period was the introduction of the Malt Tax in 1880. The way this affected production at Flower & Sons is described in the previous chapter in greater detail.
[110]*Ibid.*, DR 227/110
[111]SBTRO, DR 227/106

our business or mode of brewing'.[112] Furthermore, after leaving the firm, he was not to 'become engaged in concerns in any Brewery within 25 miles of Stratford-on-Avon without [their] consent'.[113] Whether these efforts were always successful is uncertain. Between the years 1870 and 1904, however, no correspondence suggests apprentices breached the conditions of their informal contracts.

Although the usual term of apprenticeship at Flowers, as at other English breweries, lasted only two years, the firm's directors admitted that pupils did not leave the programme sufficiently trained to manage the average forty-quarter brewery. On several occasions the board advised guardians that pupils should not expect to obtain a supervisory position immediately after completing their training. In general, the brewery's managers believed an apprentice required two additional years of work experience before he was adequately prepared to take on such a post.[114] Brewers' apprentices were expected to spend much of their time improving their skills once they had obtained a permanent, subsidiary position with a firm.

Although few immediately became managers, most obtained employment immediately after completing a two-year apprenticeship. In a letter to the parent of a potential pupil, Charles Flower claimed the firm accepted apprentices only if they had some definite prospect of entering into business after having received their training. This does not seem to have been an empty claim. Between 1870 and 1900, the firm never accepted more than two apprentices at one time. Even in the first decade of this century, when the firm experienced its greatest financial difficulties, at no point did the directors accept more pupils in order to increase revenue. Moreover, not all brewers

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[112]*Ibid.*
[113]*Ibid.*
[114]SBTRO, DR 227/106

took apprentices. For this reason, unlike many other branches of the economy, the brewing trade was never flooded with apprentices.

The firm often expended considerable effort obtaining employment for pupils, if they could not offer successful candidates a place themselves; many of the brewery's best pupils were offered employment in Stratford after two years. One of the company secretary's many duties was to write letters of recommendation for past pupils. One such letter was written in April 1898 to J. Miller of Messrs Truman, Hanbury, Buxton & Company's No. 2 Brewery. In his recommendation, Charles Lowndes, Dennis Flower's grandfather and long-time brewery secretary, although unfamiliar with Mr F. Holt's business capacity, considered him 'thoroughly trustworthy', and found him 'very neat in what little book work he had to do'.[115] Arthur Hartcup, who applied for a position at Morgan's Brewery in Norwich, was also praised. Brewery manager and director, Stephen Moore, testified to Hartcup's knowledge of brewing and to his 'careful hand work in the brewery';[116] apparently the brewery had had other plans for Hartcup, for they were also 'sorry to lose his service'.[117]

Not all apprentices, however, completed their terms at the brewery successfully. In May 1869, two years after accepting Mr Brooke's son as a pupil, the firm wrote to his father in order to complain of his continual absence from work. Although capable, Brooke's son needed 'to be more steady and reliable to be a good brewer'.[118] Only occasionally were pupils dismissed. On 4 December 1872, Charles Flower informed E. Skidmore of his son's dismissal. In a rather vague letter, Flower claimed the pupil's lack of attention caused the firm 'great inconvenience'.[119] A decade

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[115]*Ibid.*, DR 227/110
[116]SBTRO, DR 227/110
[117]*Ibid.*
[118]*Ibid.*, DR 227/106
[119]*Ibid.*

later, the firm wrote to Mr H. Green to inform him that his son found the 'work of superintending brewery operations too arduous'.[120] As it was unlikely the young man would pursue a brewing career, the firm informed Green that the second installment of the premium was not expected. If his son changed his mind, however, and gained employment with a brewery, the directors expected to receive the unpaid amount. In an exceptional case, a pupil was advised to end his apprenticeship because he had commenced the programme without his father's approval. After receiving a letter in which Charles L. Wallace opposed his son's decision to commence a brewing apprenticeship, Archibald Flower responded apologetically, claiming the directors had believed they were acting with the sanction of the boy's natural guardian.[121]

Although the brewing industry at this time was organised to cater for a mass market, some branches of the trade continued to be run along craft lines; it was here that traditional apprenticeships tended to survive in their purest forms. The most obvious example of this was in the cooperage. Workers at other midland breweries, such as Mitchells & Butlers, also witnessed a number of the trade's enduring traditions.[122] What little evidence of apprenticeship rituals that survives generally relates to this branch of the trade. Many who worked or lived near Mitchells & Butlers Cape Hill Brewery remember the sight of workers 'trussing the cooper' at the end of his term of instruction.[123] Residents of Stratford recall a similar ritual having occurred in the town, when apprentices were rolled in a barrel, usually their own work, to celebrate their rite of passage at the end of their period of indenture.

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[120]*Ibid.*

[121]*Ibid.*, DR 227/110

[122]According to the *Times*, 26 October 1996, the tradition continues only at Theakston's brewery in Masham, North Yorkshire.

[123][Mitchells & Butlers], *Fifty Years of Brewing*, p. 35. This involved pouring a pint of ale and a handful of wood shavings over the head of a cooper's apprentice before sealing him in a cask and

Apprenticeships in this branch of the trade differed from those of brewers in several other ways. After the death of the firm's head cooper, William Lambert, a clerk responsible for recording employees' wages listed the conditions governing coopers' apprenticeships in his ledger. According to his notes, coopers trained for six years, half a year less than was common at Simonds's cooperage in Reading.[124] Moreover, most were paid during their terms at the brewery. Albert Willey, whose apprenticeship expired on 30 September 1897, received two-thirds the usual piecework rates during the last two years he was indentured.[125] Benjamin Coates had only started earning the two-thirds rate in May of the same year. Prior to that he had been on half rates. John Joseph Sweeney, who had only just been taken on in 1898, earned 4s. per week during his first year at the brewery; this was to be raised to 8s. in his second year.[126] In his third and fourth years he earned half the usual rate for piece work, which was raised to two-thirds for the final two years of his training. In the same year, the firm took another apprentice, Josiah Harold Hollis, whose father already worked in the cooperage. He was paid the same rate as Sweeney until 28 February 1899 when his father was injured and was no longer in a condition to work. Thereafter, Hollis's father received a portion of his earnings which 'in ordinary cases would belong to the firm'.[127] Only when fully recovered was Josiah returned as his father's apprentice. The

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rolling him around the brewery yard; see also Gilding, *The Journeymen Coopers of East London*, p. 54; and M. J. Childs, *Labour's Apprentices* (1992), p. 83.

[124]SBTRO, DR 227/84; Interview with Dennis Flower, 1 August 1996; and CA, BA/S/10. According to Booth, as opposed to conditions in Stratford, the terms governing the apprenticeship of London coopers was strictly enforced for seven years at this time, see Booth, *Life and Labour in London*, I, p. 255. On the other hand, some coopers believed apprenticeship in general needed to be revived by the end of this period, see H. C. Sweatman, 'The Work of a Brewery Cooperage,' in *JIB* (1916), p. 188.

[125]SBTRO, DR 227/84

[126]SBTRO, DR 227/84

[127]*Ibid.*

final portion of the same memorandum reveals that all such agreements were subject to the pupil's 'good behavior and [the] prevention of unforeseen events'.[128]

The cooper's training was perhaps the most strictly regulated of brewery apprenticeships. Primarily this was due to the organisation of the trade. While few brewery workers were unionised at the end of the previous century, by 1900, coopers' unions existed in London, Bristol, Liverpool, Manchester, Birmingham (which included coopers from Wolverhampton), Hull, Burton, Leeds, Sheffield and Nottingham, among many other smaller organisations and branches, such as the National Amalgamated Coopers, which drew their membership from more broadly-defined districts.[129] According to the regulations of such societies, representatives at regional offices were to receive the indentures of all apprentices introduced to brewery cooperage departments. Here, documents were stamped and pupils' names registered alongside those of the union's senior members.[130] As a result of increased organisation, brewery owners and managers had less control over this form of apprenticeship, and coopers' apprenticeships subsequently did not witness the modifications introduced to brewers' training schemes during these years. Organisation, however, did vary from one region to the next, with coopers in Burton and Liverpool exercising the greatest craft control.[131] Those in Scotland, on the other hand, were very poorly organised.[132] Moreover, during the middle of the last century, Henry Mayhew estimated that only half of London's coopers belonged to a union.[133] Later in the century, this figure had not changed.[134] The Webbs still found coopers to be 'more local and jealous than

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[128]*Ibid.*, DR 227/85
[129]Board of Trade, *Report on Trade Unions* (1902).
[130]CA, EH/M/5
[131]Gilding, *The Journeymen Coopers of East London*, p. 50.
[132]*Ibid.*, pp. 52-3.
[133]Mayhew, *The Morning Chronicle Survey of Labour and the Poor*, p. 13.
[134]Booth, *Life and Labour in London*, I, p. 263.

almost any other trade'.[135] Consequently, conditions within individual shops did vary between 1870 and 1914, though in general, whether organised or not, brewers' coopers usually secured themselves the most generous earnings among brewery labourers.

When requested, the brewery also offered instruction in other crafts. For example, in August 1898, Francis Talbot wrote to Revd J. R. Crawford of East Walton, King's Lynn to inform him that the firm would accept his son as a malting pupil. The fee was only £50, for the period of instruction was to last no more than eight months. The sole remaining condition specified by Talbot was that his son should not visit the brewery while a pupil.[136] Presumably, Crawford would be instructed at the firm's oldest malt house in the centre of town where such strict conditions could be reasonably enforced.

As breweries began to grow in scale, they were often compared to small cities, due to the number of trades practised on their premises. Workforces grew more diversified as carpenters', painters' and even plumbers' departments were established in order to run, repair and renovate sections of enormous plants. As a result, many boys came to breweries to learn trades not traditionally associated with the industry. One of the first pupils in Stratford to receive instruction in one of the brewery's new trades was Charles Savage. In June 1903, Savage became a carpenter's apprentice. At the brewery this apprenticeship lasted only four years, three years less than was usual outside the firm.[137] A year earlier, Roger Megainey became a plumber's apprentice; this apprenticeship also lasted four years. Although non-unionised, these apprentices basically worked according to regulations which governed apprenticeships in the

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[135]The Webbs in Gilding, *The Journeymen Coopers of East London*, 81.
[136]SBTRO, DR 227/110

cooperage. Like cooper's apprentices Megainey earned 4s. a week during his first year. This increased only slightly to 6s. in his second year and to 8s. in the third. In his fourth and final year this was to jump to 12s., but Megainey was dismissed before completing his apprenticeship; the firm cancelled his indentures.[138] F. H. Wright earned the same rates as Megainey, but unlike his colleague, Wright stayed an extra year, as he had come to learn all the trades: carpentry, plumbing and painting.

Unlike brewing apprentices, those individuals who came to the brewery to learn any of the new or unionised trades tended to be residents of Stratford. Fred Hastings, a cooper's apprentice in 1871, was the son of Robert Hastings, one of Stratford's many blacksmiths. Over these years, a new generation of local coopers replaced that of their instructors, a group born, raised and, more importantly, trained in Kent. Moreover, the firm had little difficulty finding willing replacements. John Rose, a veterinary surgeon, like other local professional men, regarded the trade as one which was profitable, and therefore respectable enough for his son. Other apprentices, such as Alfred Adkins and George Savage, also came from Stratford families. None of this new generation appears to have come from outside the immediate town, as did their predecessors.

Despite the existence of a general brewers' apprenticeship, a form of instruction which eventually evolved into a system which provided breweries with brewers, clerks and managers, ordinary brewery workers received no formal training at all. While managers did not encourage a lengthy, detailed system of training for general labourers, many workers who required a great deal of knowledge in order to perform their duties adequately were often left to pick up their trades, that is, learn them by repeatedly carrying out the tasks associated with their posts. For example, Thomas

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[137]A. Hewins, *The Dillen* (1981), p. 44.

Edward Collins, the manager of the firm's wine and spirits department during the interwar period, received no training when hired as a traveller by the brewery. After developing an interest in wine, he transferred to the wine department. Everything he learned about wines, he taught himself.[139] Training for draymen and maltsters was seen to be equally unnecessary.

The way in which brewery apprenticeships evolved has led historians to describe the labour forces of breweries during the late nineteenth and early twentieth centuries as unskilled workers, supervised by only a few skilled workers.[140] Although the average worker employed by Flowers was given very little formal training, it is perhaps inaccurate to refer to them as unskilled. As census returns from 1871 to 1891 reveal, many workers recruited by Flower & Sons came from agricultural trades and brought skills with them which were easily incorporated to the brewing process. For example, as F. E. Green argues in his *History of the English Agricultural Labourer, 1870-1920*, a field of roots could be ruined by an unskilled labourer, 'or given a new lease of life by the deft hand of the "ordinary" agricultural labourer'.[141] Similar skills were required in the firm's maltings where workers manipulated germinating barley grains. Moreover, before coming to the brewery many labourers had ploughed, sowed and reaped corn, thatched farm ricks, painted wagons, broken in colts, and if employed on a modern estate, repaired machinery; all of these skills could easily be incorporated to those comprising brewery workforces. Although the skills of agricultural workers are difficult to measure accurately, Charles More has suggested a useful model. He argues that the craftman's skill lays in the fact he could undertake a variety of work,

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[138]SBTRO, DR 227/84. Whether it was as easy to dismiss a cooper's apprentice is uncertain. The ledger does not reveal the reasons for Megainey's dismissal.
[139]SBTRO, DR 730/38
[140]Donnachie, *A History of the Brewing Industry in Scotland*, p. 34.

while unskilled labourers are not adaptable.[142] The average worker employed at Flower & Sons had to be adaptable.

Most brewery workers in the late nineteenth century worked in more than one branch of the trade. In 1892, wage books reveal Henry Ricketts, an ordinary labourer, worked for a month in the brewery stables. After a short period loading drays and caring for the firm's horses, Ricketts returned to the brewhouse, where he performed a far greater range of tasks; his case was very usual at the brewery. Wage books record similar experiences for almost all workers. For example, between October and December 1894, eight labourers normally employed in the brewery were transferred to the various trades (carpenters', painters' and plumbers') departments, twelve joined teams of workers in the firm's maltings, three helped in the stables and one spent some time in the brewery's bottling plant.[143] Moreover, seven tradesmen also joined those men already employed in the maltings, as did one labourer from the stables. As a result of such transfers, before leaving the brewery's service, most employees had helped out in the firm's maltings, brewhouse, stables and even the cooperage. Moreover, when the firm began to bottle its own beer in 1888, workers were recruited from existing departments to supervise a workforce largely comprised of boys.[144] Not only did men in the bottling plant acquire an opportunity to work with new machinery, but a few gained valuable managerial skills.

Some workers appear to have travelled through almost all of the firm's departments. For example, between July and September 1897, William Fletcher

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[141]F. E. Green, *A History of the English Agricultural Labourer, 1870-1920* (1920), p. 4. Not surprisingly, B. Wynn's history of the farm workers' union is entitled *Skilled at all Trades* (1993).
[142]More, *Skill and the English Working Class*, p. 32.
[143]SBTRO, DR 227/84
[144]*Ibid.*, DR 227/83. Only after the First World War were women regularly recruited to this department at Flower & Sons.

worked in the brewery, the malt house and assisted various tradesmen.[145] He joined the cooperage department after its foreman, William Lambert, died, presumably to help with an increased work load. By October, Fletcher was again working in the brewery maltings. Another labourer who worked in as many branches of the trade was William Walsey, who came to the brewery from Herefordshire. Not surprisingly, in 1901, he was listed by the wage clerk as 'stacking hops in [the] brewery'.[146] Two years later, together with William Huckfield, he helped install a new refrigerator in the brewery.[147] Over the next year he performed duties in nearly every area of production. In 1904, after a short illness, he was once again working with Huckfield, only this time the two cleaned bricks, which were to be used in the construction of another malt house. By the end of the decade, Walsey spent the majority of his time assisting carpenters and other tradesmen.[148]

Many of these multi-talented workers were previously employed in agricultural trades. A description of their experiences at the brewery suggests the average worker was at one time very skilled. This was especially the case when most workers were recruited from agricultural parishes during the years before production occurred the year round, for the possession of additional skills would have greatly increased one's chances of employment. For example, prior to the introduction of pneumatic methods of malting, this task was largely carried out in the months between October and April. Only the most skilled workers were transferred to the brewery or stables at the conclusion of the malting season. It was in this way that, given the particular

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[145]*Ibid.*, DR 227/84
[146]*Ibid.*
[147]SBTRO, DR 227/84. Presumably, he did more than simply carry refrigerator components into the brewery. Having entered the trade in 1879, Walsey was middle-aged by this date and would not have been used for his physical strength alone.
[148]*Ibid.*, DR 227/85

organisation of the brewery's production process, agricultural labourers had a distinct advantage over the 'town-bred, manual-working boy'.[149]

A generation later, however, the entire brewing process had changed and the advantages enjoyed by agricultural workers were few. Full-time production encouraged specialisation, which, in turn, limited opportunities for rural recruits to demonstrate their various skills. Movement between departments decreased as malting and brewing were carried out regardless of season and weather conditions. While the average worker in the last decades of the nineteenth century still had the opportunity to learn all branches of the trade and not just one task, few who entered the brewery at the turn of the century did. Workers listed in the 1871 census referred to themselves as 'brewers' labourers'. A decade later, most attempted to define their roles in the brewery in greater detail. Although many 'brewer's labourers' are listed in the census, they were now recorded alongside draymen, maltsters, cellarmen and even a full-time engine driver.

While some jobs continued to encompass diverse tasks, many more became repetitive and menial; variety was often limited to rotation between the tasks performed in a specific department. This in turn must certainly have affected recruitment. Although difficult to prove, perhaps this, to some extent, explains why the sons of Flowers' employees at the end of the last century did not follow their fathers into the trade. If it did not greatly reduce the number of recruits, it may have limited workers' years of service. Many other developments particular to the years 1870 to 1914, however, need to be examined before this question can be answered authoritatively.

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[149]B. Webb and S. Webb, *Industrial Democracy* (1913), p. liv.

What is clearer is that, in the late nineteenth and early twentieth centuries, brewers' apprentices were the only workers receiving any systematic training in the brewing trade; surprisingly, the system nevertheless survived. Given its flexibility, however, brewery owners and managers were freed of the obligations which encouraged many other trades to dispense with traditional apprenticeships before the end of the nineteenth century. While the apprenticeship system in its rudimentary form was pliable, the average brewery worker's day became more rigid during this period. Naturally, the daily tasks of workers employed in the nation's smallest breweries encompassed great variation; the number of these establishments was on the decrease. By the beginning of the twentieth century, Flowers had become one of the most competitive breweries in the Midlands, and, like its larger rivals, produced its ale all the year round. Continuous production, although good for business, rooted workers more firmly in their particular departments, which, in turn, fostered the proliferation of semi-skilled workers in an age already characterised by specialisation. Given these conditions, the likelihood that brewers would develop training schemes for their ordinary workers grew even more remote.

Chapter Four: The Nature of Brewery Work

While his early memories of the trade share many similarities with those of his contemporaries, Charles Flower was the last of the family's brewers to have carried out tasks in nearly all branches of the trade. No longer an operative brewer, he assumed the role of a managing brewer and, as already demonstrated, handed over many of his duties to a new generation of scientifically-trained brewers and underbrewers, his administrative responsibilities having been delegated to managers, the majority of whom were recruited from outside the family. Within individual departments, many workers, like their proprietor, performed only a limited number of tasks, most of which managers outlined in great detail in hiring contracts. Depending on the post and actual responsibilities, each worker also assumed a particular place in an evolving hierarchy. While some research has revealed these developments in the brewing industry, and employees' earnings give some indication of their status in the workplace, surprisingly little has actually been said about the duties of brewery workers in general.[1] As few brewing archives or histories contain material relating to the roles and responsibilities of labourers, and even less about those of office workers, this chapter will provide a very detailed account of a neglected aspect of the industry; the silence of records, in general, justifies the descriptive approach which characterises this section.

Inevitably, an account of Flower & Sons' growth between the years 1870 and 1914, as set out in Chapter One, incorporates the experiences of certain senior members of staff. One of the section's aims, after all, is to describe in some detail the

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[1]Gourvish, *Norfolk Beers from English Barley*, pp. 52-4.

way in which control was consciously delegated more widely by Charles Flower in the 1870s and 1880s. For example, after managing the firm's export trade from London in the 1860s, by 1875 Flower only overlooked the general administration of regional offices, which he visited occasionally by rail. Eventually, however, even these limited duties were relinquished to Archibald Park, a clerk with considerable sales experience. Furthermore, soon after this appointment, the firm became a limited liability company, and the Flower family's presence was subsequently restricted to the company's board after 1888.

While Charles Flower withdrew from daily company life, not all family members opted for retirement after incorporation. Despite the existence of boards of directors whose members preferred to discuss the pursuit of game rather than profits, Flowers' directors generally confronted items directly related to business each week. A number of the brewers who hosted Alfred Barnard during these years appeared equally dedicated to the affairs of business. For example, on a visit to the Burton Weir Brewery in Sheffield, Barnard found the desk of the firm's director, F. M. Tindall, 'covered with letters, papers and books, and documents of a miscellaneous character;[2] in all respects, the office 'presented every indication of business'.[3] Meeting every Friday, Flower & Sons' board, and usually its three main members, Stephen Moore, Edgar Flower and his son, Archie, considered loan applications, cash grants to individual employees in the form of rises, bonuses or pensions, the transfer of debentures and shares, each alteration of the firm's production facilities, the tenders

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[2]Barnard, *The Noted Breweries*, I, p. 318. Barnard found the office of Mr Soames at his Wrexham Brewery to be in a similar state, *see* p. 528.
[3]*Ibid.*

which such decisions prompted, and, occasionally, discussed any legal proceedings in which the brewery was involved.[4] Moreover, during periods of intense property speculation, the acquisition of licensed premises usually comprised most of the directors' duties.[5]

In the 1870s, Charles or Edgar Flower had regularly attended auctions where public houses were sold. At these events the brewers had the opportunity to examine a previous proprietor's books and judge a property's potential to add to their firm's sales. By the 1880s, however, the brothers had delegated these duties to senior managers, who, although often located at agencies much nearer an auction, still received detailed instructions regarding the acquisition of particular pubs. On such occasions, above all else, the firm's managers were furnished with a maximum bid the brewery's owners were prepared to offer in order to purchase property.[6] Years later, after incorporation, Archie Flower's duties largely comprised the purchase of licensed premises and the properties of his smaller competitors. During this period, and as the result of Archie's other obligations, the firm's managing director, Archibald Park, assumed responsibility for hiring workers and paying clerks, the company secretary, Charles Lowndes, carried out the majority of the brewery's correspondence while other senior managers alternately travelled between agencies in order to monitor sales results and bad loans, among other monetary concerns. However, as has been illustrated in considerable detail already, a change in regional markets easily reversed this early period of managerial empowerment and led to a period of instability during which the brewery's chairman assumed greater decision-making powers, if not absolute control over the company's affairs. In any case, the sales figures used by the

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[4]SBTRO, DR 227/103-4
[5]*Brewers' Journal*, 15 August 1901.

chairman in order to determine company policy and guide his struggling firm at the turn of the last century were, as always, compiled by members of an office staff which comprised approximately 20 to 30 salesmen and clerks between 1870 and 1914.[7]

Generally, Flowers' clerks were based in one of four offices, ordinarily referred to as the ledger or 'counting' office, the purchasing office, the cask office and a front office, complete with a cashier's counter where members of the public placed orders when actually visiting the brewery in person; the office was also home to the firm's agents when not canvassing their districts. Each was staffed by approximately two or three clerks, except the larger ledger office, where normally five to ten clerks were employed between 1870 and 1914. Located above these offices were four additional rooms ordinarily occupied by the brewery's managing staff. These comprised the managing director's office, a board room, the company secretary's office as well as a spare office, 'a huge room', filled with racks holding ledgers, envelopes, paper and even showcards, which was used as a stationary store;[8] despite abundant space, ordinary clerks went upstairs only occasionally. Most clerical workers entered this area once a month to receive their pay, for which they signed a ledger kept by the managing director. Certain junior clerks, on the other hand, had free access to the upper floor, though only to the stationary store where they either obtained materials for senior colleagues, who worked steadily at their 'high stools and sloping desks', or made duplicates of any correspondence issued by the firm at a copy machine.[9] Moreover, as the firm retained a copy of all letters which left the brewery, the latter task was itself a full-time job, usually assigned to the office's newest recruit. Written in copy ink, letters

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[6]SBTRO, DR 227/110
[7]SBTRO, DR 227/98-99
[8]*Ibid.*, DR 227/15. This room also contained a safe in which deeds and ledgers were kept. The largest breweries constructed strong rooms for this same purpose, see, for example, Barnard, *The Noted Breweries*, I, p. 45.

were placed between a damp cloth and a leaf of tissue paper and then turned through a press. Despite the fact that its operation required the strength of 'a ten-ton navvy', junior clerks did not necessarily despise this duty, for each letter remained fastened in the press for between five and ten minutes, time which was usually spent relaxing and 'looking out the nearest window'.[10]

The tasks associated with the front-office varied considerably more. Among other commonplace duties, clerks in this office processed orders, placed advertisements in local and regional papers, carefully followed and collected any licensing cases reported in the press and even on occasion surveyed trade registers in order to ensure rivals did not duplicate the firm's trade mark.[11] In general, however, the department was most closely associated with sales. For this reason it was also known as the order office, though only a small percentage of customers actually visited the office. By 1870, most orders were posted by customers to the brewery, or, after 1887, sent to the brewery's telegraph address;[12] by the turn of the century, clerks even communicated with customers by telephone.[13] Nevertheless, throughout this period, many local inhabitants continued to request their ales in person. By 1908, their numbers had even begun to increase when the firm was licensed to sell bottled beer from their premises in quantities comprising at least one dozen pints.[14] Consequently, one of the order clerks usually acted as a cashier, both handling and balancing a small amount of petty cash. Those customers who called in person were also occasionally

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[9]SBTRO, DR 730/24
[10]SBTRO, DR 730/15
[11]*Ibid.*, DR 227/119; During a local licensing case in 1908, a judge suggested his verdict was 'clearly published in newspapers' in order to inform brewers and publicans, see *Evesham Journal*, 12 September 1908. Trade mark registers were also regularly searched by clerks of the Patent Office in Chancery Lane in these years in order to prevent infringement, see *Brewers' Journal*, 15 November 1890.
[12]SBTRO, DR 227/9
[13]*Ibid.*, DR 227/10

invited by staff to the cellars where they could taste the firm's full range of products. Unfortunately for most clients, few repeatedly visited brewery cellars or sample rooms. Most eventually assumed the role of host when they were included in salesmen's regular rounds and subsequently entertained the firm's agents at home.

Compared to the duties of the front-office staff, those of purchasing clerks were relatively self-explanatory. Not surprisingly, these workers were largely responsible for ordering all of the brewery's raw materials and communicating with suppliers. Like their colleagues in the order office, however, they also worked alongside employees normally posted outside the firm's offices. Purchasing clerks usually communicated with brewers and head maltsters, on whose instructions purchasing decisions often relied. Usually, their offices resembled storerooms as opposed to accounting departments, for they were often filled with vast numbers of barley and hop samples.[15] Presumably many of these products were also tested either in the brewery or a consultant chemist's laboratory to determine, among other things, a barley sample's growing qualities and its percentage of idle corns before large orders were placed; tests conducted afterwards were to ensure any shipments matched samples. Although primarily associated with purchasing, the office's clerks were also responsible for a portion of brewery sales, for its members sold spent grains to local livestock farmers as feed.

Members of the brewery office staff who worked even more closely with brewery workers than purchasing clerks were those employed in the cask department. Junior members of this department spent many hours in the brewery yard and loading bays where they recorded both outward-bound casks and the empties which returned

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[14]*Stratford Herald*, 3 April 1908.

from public houses and private customers by way of drays or railway carriages.[16] Consequently, these clerks communicated with customers as well as railway companies, especially when casks were returned damaged or disappeared entirely. Senior members of the department checked monthly cartage accounts and, occasionally, through the illness or absence of a salesman would even 'journey through the district doing basically anything amongst the customers or in the public house'.[17] Finally, having ascertained the location of casks, clerks provided draymen with lists of empties which were to be collected in their districts.

Less variety characterised the daily routines of the clerks who were posted in the brewery's ledger office. Here clerical workers recorded the figures directors needed to run the firm in a number of bound ledgers. Expenses and earnings were recorded in general ledgers which listed total production costs, though clerks also maintained separate accounts associated with individual items, such as sugar or coal. For example, although caramel purchases were transcribed alongside all other raw materials in purchasing ledgers, clerks also kept separate sugar ledgers. Moreover, property also created much work. The larger brewers' estates became, the greater also were the duties of this department. Clerks not only cared for property deeds, but recorded expenses associated with upkeep, fixtures and fittings in general, rents, rates, compensation levies, insurance, licences and tenants' security deposits; at the largest firms these duties were eventually distributed among ledger clerks, estate clerks and transfer clerks.[18] At any one time during these years bookkeepers updated approximately twenty ledgers daily. Besides recording actual earnings and expenses,

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[15]Barnard, *The Noted Breweries*, I, p. 496; and II, p. 314. Many breweries also kept a sample of every delivery for future reference as to quality and colour.
[16]Interview with Eddie Booker, 25 June 1996; and Barnard, *The Noted Breweries*, I, p. 31.
[17]SBTRO, DR 227/106

clerks also spent considerable time verifying each others' computations, especially in the summer at the end of each financial year. Moreover, prior to incorporation, clerks had been responsible for the family's own accounts as well as those of the brewery. The 'primitive practice of mixing private affairs with the company accounts' survived until 1888 at Flower & Sons.[19] Works, such as Edward Amsdon's *Brewers' Book-keeping*, however, had gone some way towards professionalising accounting methods approximately a decade earlier in a number of English breweries.[20]

Unlike the brewing process, office tasks were not revolutionised by technology in these years. By 1889, however, the *Brewers' Journal* reported the introduction of the first typewriters into brewery offices, though shorthand had improved correspondence prior to the appearance of these first office machines.[21] The fact that Flower & Sons' ledgers record the purchase of a typewriter ribbon in 1889, suggests the brewery was one of many to acquire this new technology before the end of the nineteenth century.[22] Not only did this improve the legibility of correspondence, but it created the first opportunity for women to secure office work. By 1901, Miss Davis regularly came to the office to type various memoranda; on 15 March 1901, she typed '100 letters re gambling' and received 7s. 9d.[23] Presumably, Miss Davis was one of the first local women to graduate from Stratford's technical college, of which she later became matron.

Of Flower & Sons' home-office staff, approximately six members were salesmen who permanently travelled the local district for orders. While these

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[18]Knox, *The Development of the London Brewing Industry*, p. 161; and *Brewers' Journal*, 15 January 1904.
[19]Pollard, *The Genesis of Modern Management*, p. 226.
[20]*Brewers' Journal*, 15 May 1881. See also Chapter Six, p. 280.
[21]*Ibid.*, 15 November 1889.
[22]SBTRO, DR 227/10
[23]*Ibid.*

employees were responsible for a small amount of paperwork, usually limited to keeping their order and cash books up to date, few clerks were assigned any sales duties. Besides taking orders from customers who came to the brewery, and occasionally fulfilling the role of a cashier, the offices of clerk and salesman did not often overlap during these years. The only exception to this rule was the employee responsible for the administration of a small agency, such as Flower & Sons established in Kidderminster and Oxford (in 1906), where an office worker, assisted by a single drayman, fulfilled the roles of salesman, clerk and cashier; this practice may well have been common at most breweries soon after the businesses were originally founded.

According to Archie Flower, most brewery salesmen, otherwise known as travellers, collectors or 'abroad clerks' in London, spent a day of each week in the firm's offices and otherwise spent much of their time 'out door knocking about'.[24] Although this description suggests salesmen were assigned only vague duties, most travellers had their rounds planned well in advance of each week's journeys. While new recruits generally were given their duties daily, more senior members of staff were assigned regular monthly routes. For example, the six travellers responsible for sales in Flower & Sons' home district divided the region between themselves and mapped out their particular routes in the form of a chart which hung in the brewery's main office; trade journals generally encouraged a similar system of mapping out travellers' journeys.[25] Using such schedules, managers and clerks kept track of travellers' locations in order, for example, to co-ordinate deliveries better. As an historical record, however, such items allow the historian not only to reconstruct a salesman's duties, but also calculate the distances each agent travelled and even determine subtle

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[24]SBTRO, DR 227/110
[25]*Brewers' Journal*, 15 January 1912.

changes in local ale markets, for a new schedule was not always drafted with each change to a salesman's route; original routes and amendments are both visible in the case of Flower & Sons' surviving schedule.

According to this chart, the firm's home-district 'outdoor' staff in 1910 comprised A. E. Fagge, C. F. Horsman, A. E. Amphlett, W. Page, H. Carter and H. Hinde. Salesmen were assigned a particular route every week for four weeks, during which time each man visited at least thirty public houses and at least as many private customers (see Table 9). Consequently, customers could expect a traveller in a particular region at least one day a month. For example, publicans in Henley-in-Arden could expect a visit from A. E. Fagge on the first and third Monday of every month.[26] Those inhabiting a smaller parish like Snitterfield, on the other hand, could expect only a single visit on the second Thursday of each month. Furthermore, each Friday the firm's travellers spent several hours at the brewery in order to update ledgers, report any information relating to the trade or, very likely, simply exchange weekly adventures. A portion of the day was also spent at the local corn market, where the sales staff solicited orders from local farmers, who were otherwise widely scattered and difficult to reach; salesmen saved considerable time and did a tremendous amount of business on such occasions. Trade at the firm's more distant agencies was divided in a similar fashion among staff members.

Most of a traveller's working hours were spent away from the firm's offices. While most journeys were scheduled, salesmen still sent out notices, usually postcards, in order to notify customers of impending visits;[27] this was most common during periods when sales fluctuated to an extent which prevented regular journeys, though

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[26]SBTRO, DR 227/160
[27]*Brewers' Journal*, 15 February 1889.

such reminders were frequently posted to individuals who were notorious for accumulating outstanding debts as an incentive to settle their accounts. Moreover, visits to public houses provided salesmen with an opportunity to inspect cellars and the condition of licensed premises, collect rent and even instruct publicans in cellar management. Should repairs have been required, travellers often encouraged tenants to refurbish or rebuild the pub and even engaged the tradesmen who carried out any alterations, if brewery tradesmen themselves did not complete the work.[28] Occasionally, travellers were also requested to value potential additions to the brewery's tied estate or investigate the region in which property was situated in order to determine the amount of competition in a particular location.[29] Most also 'made a few casual calls upon new comers in [their] district[s]'.[30] Any cash collected on their rounds was deposited at the brewery daily;[31] naturally, this requirement suggests salesmen rarely lodged outside Stratford, or the town in which they were otherwise based.

Although breweries welcomed any increase in sales, the traveller's duties to an extent varied with the seasonal fluctuations which characterised production at the brewery for much of this period. As a result, travellers notified all customers as to the best time to purchase ale. For example, in the nineteenth century, Flower & Sons' sales staff was instructed not to press for orders until October brewings were ready.[32] Meanwhile, the firm's export season did not commence until 1 November.[33]

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[28]SBTRO, DR 227/103
[29]*Ibid.*, DR 227/110; and Knox, *The Development of the London Brewing Industry*, pp. 157-8.
[30]*Brewers' Journal*, 15 April 1910.
[31]SBTRO, DR 227/121; and *Brewers' Journal*, 15 February 1896. Travellers employed at regional branches usually returned all cash collected to office managers who either forwarded the amount to the brewery within a week or deposited the sum in the firm's account at a local bank, see *Brewers' Journal*, 15 April 1904.
[32]SBTRO, DR 227/121
[33]SBTRO, DR 227/121

Consequently, most business was conducted during the winter months or in spring when summer ales were being brewed. Even before labourers began to brew, however, salesmen were relied upon to estimate the demand for ale. As Flower & Sons was unable to satisfy demand in summer as well as in the spring, seasonal production encouraged brewers to predict sales months in advance of the warmest season. In general, this involved travellers asking customers 'to estimate...the quantity they [were] likely to require before the 1 Oct[ober]'.[34] The aggregate of travellers' predicted sales usually determined production for a particular season. Breweries made up for any resulting deficits by way of reciprocal trade agreements.[35]

Most travellers also fulfilled a certain promotional role at breweries.[36] As salesmen were in regular contact with a brewery's customers, these employees, more than any other, advertised the firm to the public. Peter Mathias's work adequately demonstrates the ways in which the hours a brewer spent away from his business could both hurt and help his firm.[37] In the same way, a salesman's personality and conduct on his journeys could either aid or injure sales, especially in an age which witnessed very little direct advertising. Consequently, as well as being industrious, the ideal traveller, as described by members of the brewing trade, was 'a well-educated superior commercial man', a 'jovial fellow', who could 'take and give a joke in almost any society'.[38] Not surprisingly, Flower & Sons' managers also sought to hire very personable travellers, familiar with the regions to which they were assigned.[39] Besides being expected 'to add at least 100 barrels a week to the trade', candidates were

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[34]*Ibid.*
[35]See Chapter One, p. 28.
[36]*Brewers' Journal*, 15 March 1889.
[37]Mathias, *The Brewing Industry in England*, p. 286.
[38]*Brewers' Journal*, 15 February 1889.
[39]SBTRO, DR 227/106

expected to exhibit 'pleasant manners'.[40] Like other brewers, Flowers was hesitant to appoint an 'ordinary traveller to deal with [their] most important hotels'.[41] Familiarity with a particular locality, however, often induced employers to overlook some of a traveller's other shortcomings. Although 'a man of very peculiar talkative manner, strange to people who [did] not understand him', A. E. Fagge compensated for his deficient mode of speech by an unrivalled familiarity with Stratford's regional markets;[42] he remained a well-regarded member of the firm's staff for several decades. Those misrepresenting their ability to generate sales, on the other hand, were rarely given very long to improve their exaggerated records. For example, claiming to 'command a large trade' in the capital, A. J. Ebsworth was hired as a London agent by Flowers in 1868.[43] However, approximately a month into his term, Ebsworth was reprimanded for his failure to increase the firm's pale ale trade. Instead, it appeared 'he had no connexions';[44] Ebsworth was dismissed in November, having been with the firm only five months.

Well-connected travellers, however, were not necessarily more popular with brewers, as was proved soon after Flower & Sons hired Cheltenham brewer Edward Pole as an agent. Pole, like the firm's home-office staff, realised he could contact greater numbers of potential customers by attending events at which they congregated, rather than track each down individually. Instead of frequenting a local corn exchange or agricultural market, however, Pole regularly attended fairs and race tracks. Consequently, when relations between Pole and Flowers soured, the practice was used to discredit the innovative salesman in court where he faced various charges, including

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[40]SBTRO, DR 227/106
[41]*Ibid.*
[42]*Ibid.*, DR 227/110
[43]*Ibid.*, DR 227/106
[44]*Ibid.*

'nonaccounting', as opposed to embezzling, a far more serious offence.[45] In his defence, Pole claimed he had received several orders for the Stratford brewers by attending races at Worcester and Upton, among other courses, and had greatly increased his business contacts in this way. Apparently, the jury sympathised with Pole, for, despite his other faults, they decided in his favour.

Salesmen's marketing methods, however, were usually less creative than those devised by Pole. Generally, most brewers' travellers distributed business cards among customers and expected that their reputations, as well as information pertaining to their products, would be conveyed by way of clients' informal social networks. While early business cards usually listed a brewery's products and prices on the reverse, price-updates in the form of printed notices were also sent to customers during periods when the brewery could satisfy larger orders. Moreover, Flower & Sons' particular location allowed the firm to produce more memorable price lists than those printed by other businesses. A particular nineteenth-century pamphlet, for example, was described as 'one of the prettiest Shakespeare souvenirs imaginable', for it depicted views of Shakespeare's Birthplace and Anne Hathaway's Cottage, among many other of the region's well-known sites.[46]

Most nineteenth-century brewers engaged in very little 'deliberate sales promotion advertising'.[47] Porter, for example, was rarely aggressively advertised,[48] neither were the paler ales first brewed in the middle of the nineteenth century. Not surprisingly, the popularity of India Pale Ale was initially described as the result of an

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[45]SBTRO, DR 227/121
[46]*Ibid.*
[47]Mathias, *The Brewing Industry in England*, p. 136.
[48]Hawkins and Pass, *The Brewing Industry*, p. 20; and O. MacDonagh, 'The Origins of Porter,' in *EHR*, XVI (1964), p. 530.

accident rather than a well-conceived business strategy.[49] Over the years, this argument has gained considerable strength due to the fact that most brewers appear to have advertised only in newspapers.[50] Moreover, usually such publicity is not regarded as a conscious attempt to attract public attention, for it was generally limited to a few lines in a local newspaper. Notices placed in the *Stratford Herald* by Flower & Sons rarely stood out from the notices of the locality's smallest businesses. Not surprisingly, the firm's advertising expenditures in 1875 totalled only 13s.[51] In comparison, Norwich brewers Steward & Patteson also spent very little on local advertising.[52] As a result, historians, such as Mathias, have described these notices as information rather than advertisement.[53] In general, it appears most English brewers believed a good article was their best form of advertisement.[54]

In contrast, American brewers advertised more aggressively than their English counterparts, and the public had come to expect this from successful firms. Across the Atlantic, contemporaries claimed, customers did not buy from businesses which did not advertise.[55] Not only did this message register among members of the British brewing trade, but many believed they could learn from American entrepreneurs.[56] Already by the 1880s, conditions appeared to have changed substantially from mid-century. For

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[49]Molyneux, *Burton on Trent*, pp. 230-1. Molyneux describes the success of India Pale Ale to have been the result of the wreck in the Irish Channel of a vessel containing a cargo of approximately 300 hogsheads, of which several casks were washed ashore and sold in Liverpool for the benefit of the underwriters. By this means, in a very rapid manner, its fame spread throughout Great Britain after 1827. The *Stratford Herald*, 10 April 1908, relates another version of the tale in which a ship destined for Calcutta was wrecked off Sandwich. Apparently, this episode sparked a similar rage for Burton ale on Kentish shores.

[50]Shinner, 'The Brewing Industry in Nineteenth Century Grimsby,' in *Journal of Local and Regional History*, p. 22.

[51]SBTRO, DR 227/9

[52]Gourvish, *Norfolk Beers from English Barley*, p. 45.

[53]Mathias, *The Brewing Industry in England*, p. 136.

[54]Wilson, 'The Changing Taste for Beer in Victorian Britain,' in Gourvish and Wilson (eds), *The Dynamics of the International Brewing Industry Since 1800*, p. 94.

[55]*Brewers' Journal*, 15 April 1867.

[56]*Country Brewers' Gazette*, 4 July 1883.

example, in 1886, the editors of the *Brewers' Journal* reprinted Thomas Macaulay's dictum suggesting 'advertising is to business what steam is to machinery'.[57] Moreover, in most cases, it was increased competition which made brewers more receptive to these ideas.[58] Nevertheless, American firms' marketing techniques continued to outdo those of their English rivals, especially at trade shows. For example, visitors to the brewers' hall at the Chicago World Fair (1893) found American beer bottles to 'look brighter and more showy' than those of their foreign competitors; each package appeared to 'act as its own advertisement'.[59] In general, American exhibits were described as 'brilliant with colour', while those of the English were remembered as 'dull'.[60]

Few English brewers pursued what could be described as aggressive advertising strategies. Instead, many more appear to have relied on indirect methods of advertising. Although most brewers continued to register their addresses in trade directories and regularly place notices in local newspapers, many also recognised the commercial value of a strong public role. For example, brewers contributed far greater sums to community events than they spent on printed publicity. This strategy, however, has not always been recognised by historians for its promotional value. Throughout the nineteenth century, brewers regularly subscribed to charities and supported activities outside of their local parishes. In 1875, the same year that Flower & Sons spent 13s. advertising in the *Herald*, the brewery set aside hundreds of pounds in order to support societies and events in those communities where their products sold best. For example, the Stratford, Campden, Henley, Abergavenny and Torquay Races

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[57]*Brewers' Journal*, 15 February 1886.
[58]*Ibid.*, 15 July 1890. A little more than a decade later, the journal also periodically printed a column, entitled 'Hints on Advertising', which was written by a recognised authority on advertising, such as H. E. Morgan of W. H. Smith in November 1905.
[59]*Ibid.*, 15 October 1893.

each received between two and ten pounds yearly.[61] Organisers of regattas in Durham, Dartmouth and Evesham as well as sporting clubs in Tiddington, Alcester and Llandudno also benefited from brewery sponsorship. Besides the widows of their own deceased workers, the brewery supported those of men formerly employed by the Great Western Rail Company, along with those who resided in Studley, Warwickshire. Moreover, already closely tied to agricultural activities, the brewery subscribed to Bromsgrove's and Warwick's agricultural societies, supported poultry and cattle shows in Stratford, Moreton and Nuneaton and even sponsored a horse show in Bidford in 1887. Flower & Sons' contributions to such events were presumably recognised in any printed matter distributed by organisers, while their donations to various societies were recorded in subscription lists.

Breweries drew favourable public attention in a number of other ways. Like the most fortunate of spa proprietors, some brewers benefited from royal visits. In 1902, for example, King Edward VII visited Bass's Brewery in Burton where he commenced a 400-barrel brew, named, naturally, 'King's Brew', the strongest ale ever produced by the firm.[62] Moreover, a year earlier, the king granted a warrant of appointment to Watney's, among a number of other companies, as brewers to his Majesty.[63] Among the signatures of many other famous guests, a register belonging to Barclay, Perkins & Co. records the names of Bismarck, Napoleon III and Constantine, Grand Duke of Russia, not all of whom possessed positive advertising value historically.[64] Flower & Sons also attracted considerable publicity when the family hosted literary figures, such as Charles Dickens and Douglas William Jerrold, who toured Stratford and, not

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[60]*Ibid.*
[61]SBTRO, DR 227/9
[62]*Brewers' Journal*, 15 March 1902; and 15 November 1902.
[63]*Ibid.*, 15 August 1901.

unusually, the brewery.[65] Other breweries celebrated their own distinct achievements. Allsopp & Sons' directors, for example, claimed to be the exclusive suppliers of ale to Sir George Nare's arctic expedition.[66] Bass's King's Brew eventually travelled with Robert Falcon Scott to the Antarctic in 1910;[67] the reputation of Burroughs Wellcome's pharmaceutical products had increased considerably as the result of similar publicity.[68] Most brewers, however, benefited from publicity generated less adventurously. For example, a number of brewers' ales collected prizes at international exhibitions. Although a more common mode of transport in the nineteenth century, brewers' heavy horses also attracted considerable attention when away from their stables, and many competed in shows when not used for deliveries.[69] Courage's horses, for example, took part in the Olympia and Albert Palace Shows in 1887 and the Battersea Show in 1886.[70] John Smith's competed in York on May Day at the turn of the last century.[71] Horses belonging to the City Brewery in Oxford 'obtained prizes at almost every horse show' in these years.[72] Launched in 1885, the London Cart Horse Parade grew to be one of the largest of it kind. At the turn of the century, more than 700 horses entered the competition to compete for cash prizes, one of which was

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[64]*Anchor Magazine* (Barclay, Perkins & Company's house magazine), January 1925; and Barnard, *The Noted Breweries*, II, p. 77.
[65]*Stratford Herald*, 28 January 1870. On another well-reported occasion in 1901, the brewery hosted Major-General Baden-Powell, who toured the plant while staying at Broadway with Edgar Flower, see *Brewers Journal*, 15 September 1901.
[66]Barnard, *The Noted Breweries*, III, p. 151; *Brewers' Journal*, 15 December 1888; and 15 December 1895. Not surprisingly, certain American brewers organised equally challenging adventures of their own. For example, in 1896, the Joseph Schlitz Brewing Company commenced a round-the-world trip in order to advertise their products, see *Brewers' Journal*, 15 July 1896. One of the most innovative English brewers, however, was Allsopp & Sons, who, in June 1909, offered a 500-guinea motor car to the person who submitted the best suggestion for an advertisement to the brewery. Besides the winning suggestion, the brewery gained a number of valuable ideas as a result of such promotions, for all entries became 'the absolute property of Messrs Allsopp', see *Brewers' Journal*, 15 June 1909.
[67]*Brewers' Journal*, 15 July 1910; and 15 November 1914.
[68]R. R. James, *Henry Wellcome* (1994), p. 100.
[69]T. C. Barker, 'The Delayed Decline of the Horse in the Twentieth Century,' in F. M. L. Thompson (ed), *Horses in European Economic History* (1983), p. 109.
[70]Pudney, *A Draught of Contentment*, p. 21; and Barnard, *The Noted Breweries*, II, p. 47.
[71]Pudney, *A Draught of Contentment*, p. 132.

awarded to Flower & Sons in 1900.[73] Moreover, as the use of horses declined in the first years of this century, their motorised replacements attracted as much, if not more, attention due to their novelty. Perhaps none stood out like Worthington's bottle-shaped motor car, which appeared in 1906.[74] By 1907, London hosted an annual commercial vehicle parade where a number of these novel advertisements filled the streets of the capital.[75]

Other promotional methods were more deliberate and displayed more creativity than did a few printed lines in a local journal. For example, in 1885, the *Brewers' Journal* wrote of H. J. Turner, a brewer from Moseley, Birmingham, who introduced presentation clocks as 'a novel mode of popularizing [his] beers'.[76] Well-designed and durable, Turner's clocks advertised his ale on mantel-pieces in hotels, clubs and restaurants. Other brewers, such as Messrs Morgan & Company and Messrs Bullard & Son, both of Norwich, supplied their customers with colourful office calendars.[77] The proprietors of the Worksop and Retford Brewery, on the other hand, issued 'a very attractive and nicely-got-up almanack and year book'.[78] A similar diary was sent to the customers of John Davenport & Sons of Birmingham, though it proved most useful to sporting enthusiasts, 'as it contain[ed] in addition to a budget of miscellaneous information a comprehensive chronology of racing, sporting and athletic events, names of winners, starting-price ready reckoner, football fixtures, &c'.[79] Many other brewers distributed clay pipes through their tied houses, pubs themselves having been described

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[72]Barnard, *The Noted Breweries*, I, p. 463.
[73]*Brewers' Journal*, 15 June 1897; and 15 June 1900.
[74]*Ibid.*, 15 November 1906.
[75]*Ibid.*, 15 October 1909.
[76]*Ibid.*, 15 March 1885.
[77]*Ibid.*, 15 January 1886.
[78]*Ibid.*, 15 January 1893.
[79]*Ibid.*, 15 February 1898.

as 'one of the most efficient marketing methods of the present day'.[80] Nevertheless, few brewers appear to have made the most of such direct access to consumers during these years. Only a few appear to have researched their markets in any detail. Such analysis and advertising as we know it really appeared only in the interwar period.[81]

The exploitation of trademarks, however, was one way in which late-nineteenth-century brewers set their products apart from those of their competitors; this particular avenue was opened by legislation which amended patent law to include trademarks.[82] Evidence from Flower & Sons' ledgers suggests the firm was first granted exclusive use of Shakespeare's name and image in 1875.[83] Thereafter, the Bard appeared on the brewery's buildings, correspondence and especially their labels, which were affixed to both bottles and casks. Even small provincial breweries, such as Hereford's Charles Watkins & Son, as it was known in 1884, protected their brands with trademarks. Success in advertising, however, also encouraged imitators, and defending one's own brand could be an exhausting process. No one realised this more than did the proprietors of Bass, Burton's largest brewery, whose trademark, a red triangle, was infringed more than that of any other English firm during the late nineteenth century.[84] Since registering the image in the 1870s 'they had had their time pretty well taken up in defending the right to that mark'.[85] For a small provincial

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[80]Pudney, *A Draught of Contentment*, p. 150.
[81]Gourvish and Wilson, *The British Brewing Industry*, p. 346.
[82]Landes, *The Unbound Prometheus*, p. 198.
[83]SBTRO, DR 227/109. According to an article in *Punch*, dated 29 April 1865, Flower & Sons was described to brew an ale 'not unworthily called SHAKSPEARE [sic]'.
[84]In the 1880s, infringements of the firm's trademark reported in the pages of the *Brewers' Journal* alone numbered approximately twenty. At one point in 1886, one case was reported each month for a period of five months, see *Brewers' Journal*, 15 August-15 December 1886. Perhaps having foreseen these tendencies, Guinness's managers designed their labels 'as accurately as a Bank of England note'. Each set contained the names of the agent for whom it was intended and were numbered so as not to allow for duplicates, see *Brewers' Journal*, 16 September 1865.
[85]*Ibid.*, 15 August 1892.

brewer like Charles Watkins, however, defending the firm's 'Golden Sunlight' trademark was also an expensive process.[86] In the case of the Hereford brewers, it may even have contributed to the death of its owner and manager, Henry Watkins, who in 1888, soon after a court appearance, threw himself into the River Lugg and did not explain his actions.[87] In this same year, however, another provincial brewer, Charles Flower, retired from business, never having had to defend his trademark in court. Unlike that of Watkins, Flower's departure was celebrated by the firm at a company-sponsored picnic, the very occasion at which he described his familiarity with nearly ever branch of the trade.

Despite such claims, Flower does not appear to have malted in Stratford. It appears that Flower familiarised himself with the malting process only on a brief visit to the Fordham's Ashwell Brewery in the late 1840s. Moreover, during the brewery's first years, Charles's father purchased malt from numerous local maltsters; unfamiliarity with malting is said to have produced the mutual distrust which characterised relations between maltsters and brewers earlier in the nineteenth century.[88] By the middle of the century, however, Flower, like many other brewers, had begun to make his own and thereby controlled its quality directly. By 1870, this process occupied approximately twenty-four men in six separate maltings between October and March. This lasted until 1877 when another two malt houses were constructed and the task employed more than forty maltsters, wetting approximately 600 quarters every four days in the autumn, winter and early spring.[89] In the summer, however, each malt house was manned by only a foreman and a single labourer. The

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[86]*Brewers' Journal*, 15 December 1888.
[87]*Ibid.*, 15 January 1889.
[88]Bowley, 'The Consulting Brewer,' in *JFIB*, p. 91.

same routine appears to have been common at other breweries during much of the nineteenth century.[90]

The relatively quiet summer season at maltings usually ended soon after the harvest when large shipments of barley were delivered to breweries to replenish that already stored in the top floors of the maltings. Unloading the largest deliveries, however, usually required little time. Approximately eight men and a foreman could unload three-hundred quarters of barley in a single day.[91] While this sort of work was often physically exhausting, the movement of barley had been made easier over the years through the introduction of endless belts, steam-operated cranes and hoists.[92] Although most foreign barley was placed in store until malted, local grains were immediately transported to brewery kilns, where they were 'sweated', or dried, in order to rid the shipment of excess moisture, increase its vitality and retard deterioration.[93] Moreover, the entire shipment was screened, for it often contained numerous impurities, especially if it had come from abroad. According to William Molyneux in his history of Burton, French barley contained 'old iron, pieces of pottery, buttons, and many other things, even coins'.[94] Magnets attached to Hoare & Company's screens removed 'nails, stones, buckles, pieces of iron and...even...an old razor and a steel fork' on the day of Barnard's visit to the London firm in the late nineteenth century.[95] In extreme cases these objects comprised 5 per cent of the

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[89]SBTRO, DR 227/82 and 110. According to the editors of the *Brewers' Journal*, it was customary in the trade to employ one man in the maltings for every fifteen quarters of barley actually steeped, see 15 September 1891.
[90]Molyneux, *Burton on Trent*, p. 252.
[91]G. E. Evans, *Where Beards Wag All* (1970), p. 259.
[92]*Ibid.*; Barnard, *The Noted Breweries*, I, p. 235; and SBTRO, DR 227/118
[93]Barnard, *The Noted Breweries*, I, p. 422. Usually, brewers tolerated only one per cent moisture in a sample, see *Brewers' Journal*, 15 March 1895; and 15 October 1904.
[94]Molyneux, *Burton on Trent*, p. 239.
[95]Barnard, *The Noted Breweries*, I, p. 55.

product's bulk.[96] The actual screening process was carried out on the top floors of a brewery, where men, 'divested of clothing save a pair of flannel trousers and clogs', cleared about sixty quarters per day.[97] By the end of the nineteenth century, however, this process had become mechanised at a number of breweries. In the 1890s, Flowers, like many other firms, purchased machines produced by R. Boby of Bury which cleared the same amount of grain in a couple of hours.[98] Besides eliminating impurities, these machines also usually sorted grains according to size. This was only one of many innovations which ensured germination would proceed more regularly.[99]

The actual malting process comprised four general stages: steeping, couching, flooring and kiln drying. During the first stage (steeping), grains were placed in cisterns and permitted to absorb water, lime often having been added to the initial soak. Thereafter, water was changed between three and four times daily 'to get rid of any fermentable matter'.[100] Over a period of approximately 60 hours, only 50 at Flower & Sons, barley remained immersed in cold water while a labourer periodically skimmed off all floating grains, which were deemed of an inferior nature.[101] Not only did this refuse spoil the quality of the malt, but, as such grains were subject to taxation until 1880, it increased the duty paid by the brewer.[102]

After water had been drained off, labourers shovelled 'good' grains out of the cisterns and 'evenly and carefully into the "couching" frames', for it was at this point

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[96]Molyneux, *Burton on Trent*, p. 239.
[97]*Ibid.*, p. 240.
[98]*Brewers' Journal*, 15 October 1894.
[99]*Ibid.*, 15 January 1899; and Barnard, *The Noted Breweries*, I, p. 494.
[100]Barnard, *The Noted Breweries*, I, p. 494.
[101]SBTRO, DR 227/121; and *Land and Water*, 5 March 1881. Donnachie describes steeping to have lasted approximately 60 hours in English breweries and 75 hours at Scottish firms, see Donnachie, *A History of the Brewing Industry in Scotland*, p. 102. Sambrook advances a more general timetable, claiming the process lasted between three and four days, see Sambrook, *Country House Brewing in England*, p. 128.
[102]Donnachie, *A History of the Brewing Industry in Scotland*, p. 101. In general, thin-skinned barley was steeped for shorter periods than thick-skinned corns.

that barley was first gauged by the excise man;[103] ordinarily, officers were provided with offices at breweries and regulated the brewing process at approximately a dozen firms in their districts twice each day from Monday to Saturday and once on Sundays.[104] Often piled more than thirty inches in depth, grains began to produce heat and germination commenced.

As this process continued, the sprouting grain was spread over the floor of the maltings until it formed a four-inch layer or 'piece' in order that barley growth could be more carefully observed; malting has been described as 'controlled germination' for this very reason.[105] While the foreman of each malt house supervised both malt and men, the superintendent maltster went through the entire maltings three times a day and set the foremen maltsters their work. Generally, the head maltster superintended the malting department, though this also included keeping all barley and malt accounts. Consequently, a portion of each day was spent assisting purchasing agents who sought out suppliers of additional local and foreign barley.

Though often associated with heat-generating kilns, maltings were kept cool during the flooring process in order to slow germination as much as possible. Ideally, maltsters attempted to get as much root out of the corn before the stalk came out at the other end of the grain. Consequently, at first, grains were turned by men using special malt shovels only once every six hours or until root growth was well under way. After approximately five days, no more than seven, when the moisture absorbed during the steep had largely dissipated, grains were again sprinkled with water and

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[103]*Land and Water*, 5 March 1881. Between 1862 and 1880, the duty on malt amounted to £1 2s. 8½d. per quarter.
[104]*Brewers' Journal*, 15 September 1899.
[105]Rose, *Economic Microbiology*, p. 45.

mixed using a small wooden plough.[106] At some maltings, sprinkling was accomplished using hose pipes or overhead water mains.[107] At Flower & Sons during the first decade of this century, it was carried out by Mrs Miller using a simple watering can.[108] Thereafter, barley was turned frequently, often 'violently tossed about', a practice which aided the evaporation of moisture over some ten days until the layers of grain were reworked with forks every two hours during the last four days of malting.[109]

Although the entire process could not be measured as accurately as the department's accounts, workers judged the quality of malt fairly accurately using only sight or even occasionally smell. For example, according to editors of trade journals, the poorest brewing malt smelled of rotten apples while 'good malting smell[ed] of cucumber'.[110] Moreover, maltsters treated grains with great care throughout the malting process, in order to prevent the damage of germinating barley. This requirement was exploited by enterprising maltsters in Arbroath, Messrs Fraser & Sons, who patented a special canvas shoe which they claimed would not damage grains.[111] Besides such specialised dress, most maltsters and brewery workers were indistinguishable, for both workers wore light shirts and flannel trousers.[112]

In order to preserve the natural sugars which accumulate in each barley grain and are required in the production of alcohol, maltsters must halt germination before a seedling begins to consume its stored energy. This is accomplished during the final drying stage after grains are transported to kilns in baskets. Individual kilns measured

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[106]*Brewers' Journal*, 15 October 1904. When sprinkled, approximately two gallons of water were added to each quarter of barley malted.
[107]Barnard, *The Noted Breweries*, I, pp. 288, 463 and 492.
[108]SBTRO, DR 227/85
[109]*Brewers' Journal*, 15 October 1904.
[110]*Ibid.*, 15 April 1881.
[111]*Ibid.*, 15 October 1889.
[112]SBTRO, DR 227/10

approximately forty by twenty feet and were powered by furnaces which gave them the capacity to dry more than sixty quarters of malt during each firing.[113] Laid out in six-inch layers, malt was roasted or cured by hot air, which rose through perforated tiles which comprised a kiln's floor, and was periodically turned throughout the day and night. Drying times and temperatures varied depending on the type of product the firm intended to brew; the very strongest dark ales required kiln temperatures to reach approximately 215 degrees Fahrenheit over four days.[114] After drying, an entire load of malt returned to the main floor of the maltings, or occasionally a drying loft, where, being turned twice daily, it was permitted to harden over a period of two days; kiln dried, malt could be stored. Once collected from the floor and placed in a garner, or storehouse, however, malt was again screened in order to separate the individual grain from its comb or rootlet. Unlike the malt which was used to brew ale, the roots were often sold as cattle feed. The grains, on the other hand, were crushed in a grinding mill; it was then ready for brewing.

Flower & Sons' decision to adopt Galland's pneumatic malting methods did not radically change the malting procedure. After the initial processes of screening and steeping, however, grains were placed on a wire floor, as opposed to one constructed of wood or concrete, in a layer six times the thickness that had been common under more manual systems of malting. Nevertheless, germinating barley grew as slowly as before, for cold air was 'forced up and drawn through the green malt by means of a fan worked by two 4-horsepower Crossley gas engines' and 'effectually [drove] out all the impurities in the barley which were left in by the old system'.[115] In this way, brewers eliminated much of the hard toil of continually turning layers of barley by the shovelful,

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[113]Barnard, *The Noted Breweries*, I, pp. 421-2.
[114]Evans, *Where Beards Wag All*, p. 259.

a task regarded as 'unsuited to a quick intelligence' by members of the trade;[116] carried out in rotating drums, as at other firms, manual labour could almost entirely be eliminated. Moreover, when eventually combined with the firm's new refrigeration technology, these developments allowed Flower & Sons to malt, albeit in only one of their maltings, all the year round.

When it came time to brew, ground malt was dispensed into hoppers situated directly over the brewery's mash tuns by way of an elevator called 'Jacob's ladder', the action of which was similar 'to the endless belt fitted with buckets to be seen at work any day on a dredging machine in the Thames or Clyde'.[117] At some breweries, grains were measured by a machine 'thus ensuring a correct quantity and preventing dispute and fraud'.[118] In all breweries, malt met water and was thoroughly mixed in order to liberate the fermentable sugars created during malting. While the process had required tremendous labour in the early nineteenth century, machines had made this task considerably easier at the end of the century. Just as scales, carts and hoppers had begun to automate its initial operations, machinery facilitated the entire brewing process. Many brewers had purchased mashing plants which were essentially entirely self-acting. Emil Weltz's innovative plant, for example, had fully automated the wort-making process at Flowers.[119] In most cases, the old oars traditionally wielded by brewery stagemen were replaced by the iron rakes of Steele's, or occasionally another, mashing machine. Used malt was conveyed from the mash tun to a grain store or, as at other plants, dispensed directly into farmer's carts, by simply turning a valve.[120]

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[115]SBTRO, DR 227/121; and *Land and Water*, 5 March 1881.
[116]*Brewers' Journal*, 15 July 1881.
[117]SBTRO, DR 227/121; and *Land and Water*, 5 March 1881.
[118]*Brewers' Journal*, 15 July 1880.
[119]See Chapter One, pp. 32-3; Chapter Two, pp. 100-1; the *Brewers' Journal*, 15 January 1880, describes these changes to mashing throughout the trade in general.
[120]Barnard, *The Noted Breweries*, I, pp. 214-5.

Consequently, unlike in the maltings, there was very little need for any labour during brewing until the firm's products came to be racked and distributed.

After mashing, the wort ran to a receiver and was conducted to a 5000 gallon copper by way of valves, cocks and, in non-tower breweries, pumps;[121] at this point, after 1880, beer was also gauged by the excise officer for taxation purposes. The addition of hops was one of few activities still carried out manually; approximately five hundred pounds were added to each brew. Once in the copper, hops were kept in suspension by steam-powered rousers. Even the boilers which heated the brewing coppers were operated by self-acting stokers, which saved labour as well as fuel.[122] After boiling for approximately an hour, both wort and hops ran off into a hop back with a perforated false bottom, or strainer, which separated the former from the latter. Hops were made to part with any retained moisture through the use of hydraulic pressure.[123] The wort was then pumped to the top of the building where it either passed through refrigerators or was permitted to cool naturally before being conveyed by pipes to rounds, or vats, where both yeast and sugars were added. Fermentation took place for between forty and sixty hours and was aided by pumping or rousing the liquid approximately every two hours. While workers had previously skimmed yeast from the ale during this process, the introduction of the Burton union system further eliminated the need for labour. Attached to the side of each union cask was a thin metal tube, termed a swan's neck, by means of which yeast rose during fermentation, the ale being left clear after about three days. Yeast, on the other hand, collected in troughs and was transferred to storage vats in a specially cooled room where it was

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[121] As an indication of the degree to which labour had been dispensed with during this process, draining the mash tun was alternatively referred to as 'setting the tap', see Barnard, *The Noted Breweries*, I, p. 321.
[122] SBTRO, DR 227/118
[123] *Ibid.*, DR 227/121

tested and either used for future brewing or pressed before being packaged and sent away to merchants.

During the final stage of brewing, ale was run off into racking vats, specifically designed to help ale settle, where it remained for only a few hours before it was drawn off into casks or bottled. Supplied with a number of vessels, each racker filled his casks with what appeared to be an ordinary hose, save for a glass panel in its nozzle; the glass portion of the hose allowed the filler to detect any colour change, which indicated the presence of sediment. Finings, however, also helped clear the brewers' products and had been added to beers since the public had begun to demand 'star bright ale' early in the nineteenth century.[124] All casks were then rolled into the cellars by 'several sturdy fellows' and stored until required for sale;[125] occasionally brewers 'rammed' mature ale with additional hops and even tasted each barrel in order to limit the number of eventual returns.[126]

Bottling, on the other hand, had first been attempted by the firm in 1888, the year of its incorporation. The bottling facilities were placed under the supervision of Charles Hitchman, a senior labourer, who visited a brewery in Campden for four days in order to familiarise himself with the new machinery.[127] During the period he ran the department at Flowers, Hitchman was assisted by approximately five young men who unpacked, sorted and washed bottles, while a single labourer sorted corks and stop rings and pasted labels on to bottles; naturally, every bottle eventually had to pass 'the

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[124]*Brewers' Journal*, 15 June 1912. At times, finings were even manufactured on the premises, though not at Flower & Sons during this period.
[125]Barnard, *The Noted Breweries*, I, p. 297.
[126]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 361. More often, brewers sampled the beer during primary fermentation, see *Brewers' Journal*, 15 April 1893.
[127]SBTRO, DR 227/83. The machinery included Wilson's one-dozen bottle washing machine and, after 1905, a Foxon Haggie & Company Corking Machine, which cost the brewery £13 13s., see *ibid.*, DR 227/10.

lynx eyes of the foreman'.[128] Ordinarily, however, these labourers were occupied with other brewery tasks, for bottling lasted only between two weeks and two months for the first few years after the department was founded. Only in the summer of 1891 did the firm's wage clerk distinguish bottlers from ordinary brewery labourers and was labour-saving machinery slowly being introduced to the department.[129] As a result, labourers remained unfamiliar with the firm's newest and most fragile containers; a layer of hay on the department's floor greatly reduced the number of breakages. By the turn of the century, however, bottling occupied a full-time staff of approximately twenty young men; glass breakage still cost the firm approximately £40 a year.[130] Only during the interwar period did directors begin to regard the task as one particularly suited to women. Some breweries, however, had begun to introduce female labourers to this process much earlier. In 1914, approximately 10,000 women were employed in breweries; most only bottled.[131] By 1916, this number had more than doubled, as women were fitted up with trouser suits and boots and recruited into bottling departments, cask washing sheds, fermenting rooms and even maltings after the Home Office permitted female labour to work on Sundays.[132]

While the entire brewing process appears to have been very nearly self-acting, there was always room for error and, as a result, the entire brewing process, conducted at two plants until 1910 in Flower & Sons' case, was supervised by a number of underbrewers. In any brewery these individuals were required to keep in close touch with all brewing activities, report any irregularities, and thereby minimise any wastage through accident, ensure cleanliness and correct weighing and, occasionally, suggest

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[128]Barnard, *The Noted Breweries*, II, p. 36.
[129]SBTRO, DR 227/83. By 1900, approximately nineteen Burton breweries were bottling their own ale, see *Brewers' Journal*, 15 June 1901.
[130]SBTRO, DR 227/10
[131]*Journal of the Operative Brewers' Guild*, September 1916.

any improvements in the working of the brewery.[133] While this loose description of duties perhaps encouraged many labourers to describe themselves as underbrewers, these posts also required the employees to fill up their spare time in the brewer's office helping with accounts.[134] In November 1914, members of the Operative Brewers' Guild suggested brewers should also make up timetables in order to regulate their duties as carefully as those of underbrewers and brewers' travellers. The editors of the guild's journal, however, claimed they had 'not yet come across such a man'.[135] Nevertheless, they did publish a sample of such a timetable which had been approved by a handful of the organisation's members. According to the table, each brewer was to begin his day, between six and seven each morning, by walking through each of the firm's departments and inquire if each man was present. Then, for approximately half an hour, he was to examine the purity of pitching yeast before generally supervising brewing operations until noon. For the remaining half hour before lunch, the brewer was to complete some of the day's office work. Between two and three each afternoon, depending on the day of the week, brewers either assessed their malt stock, inspected the premises for cleanliness, analysed forcing trays, the results of which generally showed the stability of each beer the firm brewed, overlooked the ale stores or, finally, examined the bottling store. For the following hour, the editors advised brewers to carry out another period of general supervision. Between four and five,

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[132]*Ibid.*, June 1916; September 1916; and October 1916.
[133]Norfolk Record Office (NRO), BR 3/28
[134]SBTRO, DR 227/106
[135]*Journal of the Operative Brewers' Guild*, November 1914.

however, tasks again varied daily. During this hour, the brewer was either to ascertain the amount of coal used that week, examine wage books, post up his laboratory book, arrange the next week's brewing, or balance malt and sugar stocks in order to be able to send orders for materials required the following week. Should it have been possible to find additional time, brewers were also to interview travellers to hear their views and discern events in the country. Moreover, brewers were to read trade journals regularly, though editors believed few studied more than their 'Appointments Vacant' column.[136] Naturally, if possible, the head brewer was to designate a number of his tasks to underbrewers, or his bookwork to a junior clerk, and thereby provide more time for general supervision.[137]

Most brewery labourers, on the other hand, occupied the majority of their time cleaning the brewing plant. Although some evidence suggests brewery vats and malting floors were cleaned only once a year, other records suggest that companies were conscious of the importance of cleanliness.[138] During his tour of breweries, Alfred Barnard 'always found the brewer's men busy with the inevitable hose'.[139] Flower & Sons' inventories also list numerous hoses which were normally used to wash out mash tuns and brewing vessels.[140] More importantly, the brewery's circuitous plumbing network consisted of removable pipes which could be cleaned far more easily than those which were permanently mounted; a similar system was recommended by brewers' chemists Kendall & Son to all of their clients and can be found in inventories

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[136]*Journal of the Operative Brewers' Guild*, November 1917.
[137]*Ibid.*, November 1914.
[138]Hewins, *Mary, After the Queen*, p. 52; and *Brewers' Journal*, 15 January 1902.
[139]Barnard, *The Noted Breweries*, I, p. 411.
[140]SBTRO, DR 227/118

of other provincial breweries, such as Bullard & Sons.[141] Moreover, many breweries replaced hop backs, as were included in Flower & Sons' inventory, with strainers, since cleaning the new filters was less messy and far less labour intensive. Furthermore, daily cleaning tasks were certainly carried out more thoroughly after Pasteur's ideas were taken up more readily by English brewers in the 1870s. Founded well after these discoveries, Flower & Sons' bottling plant only operated until an hour before the brewery's closure each day, for labourers required this time to clean the entire facility thoroughly. Consequently, although labour costs were relatively low in breweries, cleaning costs were very high.

Most of the cleaning undertaken during the busiest months of the brewing season usually involved only those utensils and that portion of a plant which had been used in production. The thorough cleaning of an entire premises' walls, ceilings, passages and staircases, as was required under the tenets of the factory inspectors, usually took place in the slower summer season, or in the spring when brewing began to be conducted all year round.[142] These duties also tended to grow with the size of a particular plant. Whitewashing the brewery in 1883 occupied several labourers for two weeks.[143] Another entry in the firm's wage books indicates that ten men spent a similar period of time cleaning the company's old brewery in 1889 with chlorine of lime.[144] Whitewashing also kept nearly a dozen men busy in the brewery maltings. Moreover, considerable time was spent eliminating kiln dust and washing down the barley house. Cleaning also extended beyond the firm's production facilities, especially when managers became more concerned with the company's public image. In 1895, perhaps

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[141]NRO, BR 3/28. Other firms where cleaning was facilitated by similar arrangements included Barras & Company in Newcastle, Groves & Whitnall in Salford and Soames & Company in Wrexham, Wales, see Barnard, *The Noted Breweries*, I, pp. 177, 191 and 533.
[142]*Brewers' Journal*, 15 May 1901; and 15 May 1910.
[143]SBTRO, DR 227/83

the result of such concerns, several men were ordered to erect scaffolding round the firm's buildings and clean the brickwork.[145]

The handling of raw materials, their storage and disposal also occupied a considerable number of labourers' working days. Besides several hundredweight of sugar, hops and barley, the brewing process consumed a considerable amount of energy in the form of coal. Each year labourers shovelled approximately £1500-worth of the mineral into three steel Lancashire boilers and the maltings' furnaces. Moreover, all materials had to be accounted for, and some brewers took stock of supplies once a month.[146] Furthermore, a considerable amount of trade was done in the waste products of brewing. Flowers sold a substantial amount of malt dust, tail barley, coal, scrap metal, old casks and horses, as well as the manure which was collected in the brewery stables. The brewers also established a considerable trade in spent grains, which were sold throughout the district as cattle feed. As the firm began to produce weaker beers and regularly brewed with sugar, yeast produced during fermentation was no longer of a standard useful to local bakers. It was, however, frequently sold to either pig farmers or vinegar makers, while hops were sold as either bedding or fertiliser, as was a more obvious product, horse manure. Earnings from manure sales alone allowed the brewery to cover its yearly stable expenses.[147]

Further duties were created as businesses diversified. Nearly all provincial breweries and distilleries kept hogs themselves which were fed quantities of yeast not

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[144]*Ibid.*
[145]SBTRO, DR 227/84
[146]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 359.
[147]SBTRO, DR 227/9. These included veterinary bills, as well as the cost of shoes, reins and harnesses, though excluded that of labour. Sales of manure had declined by 1910 due to the introduction of other fertilisers. Nevertheless, the brewery still sold more than thirty tons in this year, see *ibid.*, DR 227/22.

deemed suitable for production.[148] A surprising number of brewery plans included piggeries; complaints made by a brewery's neighbour, such as those received by the proprietors of the Warwick and Leamington Brewery, are another indication of these animals' presence.[149] Styes were erected at Flowers' new brewery in 1870 at a cost of nearly £24.[150] Thereafter, the brewery earned nearly £200 from the sale of pork each year.[151] Flower & Sons kept pigs until at least 1894, when ledgers record that two men were assigned to pull down all remaining pig styes.[152] Furthermore, Edward Flower, the brewery's founder, dealt in scrap iron for approximately a decade after he commenced brewing and had established his own wine and spirits department at the brewery. It was only in later years that managers began to concentrate on that which they did best. Other brewers, however, never attempted to consolidate their interests. For example, in his obituary, Hereford brewer Charles Watkins was remembered as a 'man of wonderful energy and enterprise' who 'turned his attention, with more or less success, to a great variety of businesses'.[153] Although chiefly known as a brewer, he was described as a wine and spirit merchant, as well as a maltster. Like Flowers and many other provincial brewers, Watkins made the very logical decision to supply his customers with a number of non-alcoholic drinks. The brewer's fare included ginger beer, lemonade, as well as a noted brand of mineral water named Paragon. Besides also marketing the waste products of production, Watkins converted an extensive section of his firm's maltings into a flour mill. Other brewers diversified even more extensively. Labourers at John Smith's Tadcaster Brewery, for example, mined in the firm's

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[148]Donnachie, *A History of the Brewing Industry in Scotland*, p. 59; and G. G. Birch and M. G. Lindley, *Alcoholic Beverages* (1985), p. 49.
[149]WCRO, CR 1097/123
[150]SBTRO, DR 227/8
[151]*Ibid.*, DR 227/9
[152]*Ibid.*, DR 227/84
[153]*Brewers' Journal*, 15 February 1888.

limestone quarries and worked the brewery's own farmland.[154] Few breweries appear to have exploited the seasonal nature of the trade as successfully.

Besides transferring labourers from one department to the next depending on individual work loads, Flower & Sons utilised some excess labour in construction and maintenance projects, and not always at the brewery. For example, between 1880 and 1900 company ledgers record a number of labourers who were employed at the homes of managers and directors for up to six weeks;[155] presumably, it was on such an occasion in 1884 that Thomas Savage was discharged for 'improper intimacy with Mr [Stephen] Moores Servant'.[156] Normally, when labourers worked outside the brewery environs they undertook tasks resembling those carried out at the brewery during these slack periods. For example, such intervals were ideal for repouring concrete floors in the brewery and malt houses, digging drains, painting various departments and even mending sacks. Not all workers, however, undertook the full range of work embodied in these tasks, for certain duties were reserved for particular workers. For example, while the strongest maltsters usually dug drains or excavated sites in preparation for construction projects, the firm's oldest labourers often mended the sacks used to store barley and malt.[157] Worthington's malt store actually contained an entire tailor's shop, where, 'by means of a sewing machine, slippers, jackets, flannel trousers, watchmen's coats and cooler bags [were] made by four of the old employés who [had] been maimed or injured on the establishment';[158] consequently, these sewing rooms were

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[154]Pudney, *A Draught of Contentment*, p. 128. Most Yorkshire brewers who fermented their beer in stone squares usually had their own quarries, see Barnard, *The Noted Breweries*, I, p. 262. One of the more interesting cases of diversification is that of David Embree, Cincinnati's first brewer, whose workers made mustard - its key ingredient being vinegar - during much of the nineteenth century after the brewing season ended, see W. L. Downard, *The Cincinnati Brewing Industry* (1973), p. 9.
[155]SBTRO, DR 227/83-4
[156]*Ibid.*, DR 227/83
[157]*Ibid.*, DR 227/82-5
[158]Barnard, *The Noted Breweries*, III, p. 421.

also called the 'cripple department'. At Flowers, the sheer number of sacks which needed repairing in summer eventually created an opportunity for Mrs Bridges, a labourer's wife, to work in the brewery.[159] Workers' clothing, on the other hand, was repaired by E. Moore.[160]

While a considerable number of repairs were made when men were not brewing, most labourers tended to assist the tradesmen who executed construction work at the brewery. Initially comprising a blacksmith, painter and carpenter in 1870, Flower & Sons' trades department numbered approximately 20 members in 1884 and retained this level of membership until the war.[161] Much of this rise can be attributed to the number of public houses maintained by the firm. For example, in 1897, repairs to houses, including drain work, paperhanging and painting, cost the brewery more than £1600.[162] After 1901, the firm hired additional bricklayers, plumbers and even three electricians, who, by 1903, besides maintaining two high-speed engines, directly coupled to continuous-current dynamos, monitored and serviced approximately thirty motors installed throughout the premises by Electromotors Ltd of Openshaw, Manchester.[163] Furthermore, the brewery employed several additional tradesmen already represented in the firm's 1870 wage book. Not only were most kept busy preserving plant and pub, but additional labourers continually assisted tradesmen on projects. While it is not hard to image that the brewery's endless plumbing network itself could easily have occupied a number of tradesmen, pipes were also often painted to reveal their contents.[164] Moreover, plumbers and carpenters also spent many hours

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[159]SBTRO, DR 227/10
[160]*Ibid.*
[161]*Ibid.*, DR 227/82-5
[162]*Ibid.*, DR 227/10
[163]*Brewers' Journal*, 15 October 1903.
[164]*Ibid.*, 15 April 1894. Fortunately for English brewers in these years, this was not made mandatory as it was in Australia. Nevertheless, it was carried out at Barras & Co., Newcastle, S. A Brain's

constructing steps, pipe rails and wooden guard rails and, in doing so, greatly improved safety at the brewery in these decades.[165] Nevertheless, despite their numerous duties, prior to the late 1890s, tradesmen were frequently transferred to other brewery departments when extra hands were required in production.[166] Moreover, the brewery continued to rely on the services of several local craftsmen, including Thomas Humphries, a harness maker, Henry Freeman, a tinman, who frequently made repairs at the brewery and several public houses, and Frederick Ball, the Stratford machinist, who serviced and repaired his own machinery, as well as any other mechanical components which comprised Flower & Sons' plant.[167]

Despite such fluctuations, fewer labourers were transferred to the brewery's cooperage. Hardly any member of a brewery staff had anything to do with the department.[168] The two trades, those of the brewer and cooper, had in fact been distinguished from one another as early as the sixteenth century. An act of 1532, in fact, initially prohibited brewers from practising the cooper's trade and, thereafter, few brewers appear to have concerned themselves with the daily affairs of the cooperage even if its role was central to their trade.[169] Most brewers found that 'it paid them to trust their head coopers and not to interfere too much with them'.[170] In most cases, the foreman of the cooperage assigned work to a full-time indentured staff. In Flower &

Brewery in Cardiff, Peter Walker's Burton Brewery and Barclay, Perkins & Co., see Barnard, *The Noted Breweries*, I, pp. 177 and 483; II, p. 175; and III, p. 244.

[165]SBTRO, DR 227/118

[166]*Ibid.*, DR 227/83

[167]*Ibid.*, DR 227/8. Other breweries, however, had begun to employ their own engineers as well as wheelwrights, slate workers and even architects.

[168]A. Hartley, 'Cask Plant,' in *Transactions of the Institute of Brewing* (1892), p. 85.

[169]Dunlop and Denman, *English Apprenticeship and Child Labour*, p. 22. Since that time, the cooper's trade had altered little, only, by the nineteenth century, iron hoops had generally replaced wooden ones.

[170]Sweatman, 'The Work of a Brewery Cooperage,' in *JIB*, p. 179. See also *Brewers' Journal*, 15 October 1895.

Sons' case this involved approximately twenty coopers maintaining the condition of nearly sixty thousand casks (see Table 10).[171]

Those casks which returned from customers were first handled by a clerk and a cellarman and examined for cleanliness and any obvious damage. Though few casks were ever lost or damaged, all were cleaned since most came back to the brewery 'covered in filth and mud'.[172] At Flower & Sons all casks were transported to a scalding shed after their numbers had been recorded by a junior member of the cask department. Once in the shed, individual casks were placed over a nozzle and their interiors were blasted with steam. At a number of provincial breweries, however, labourers continued to clean all casks by hand well after mid-century. This was still common, for example, at Steward & Patteson's Norwich brewery in 1885.[173] Despite the efficacy of both methods, many casks required more than a simple rinse before they were refilled. Occasionally, gravel or chains and other metallic objects were placed in barrels in order to remove hardened waste.[174] Violent action was needed 'to work off the yeasty stuff left in the cask'.[175] Those which stood empty longest before returning to breweries, often reached more serious states of decay. Most nineteenth-century brewers struggled with infected, rotten casks, generally referred to as 'stinkers'.

The task of diagnosing a cask as rotten was that of the 'smeller'. Although contemporary descriptions of this labourer, reminiscent of Nicolai Gogol's most absurd writings, appear to minimise his role in the brewery, the importance of a good smeller is stressed in most discussions of brewery cooperages produced in these years. In

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[171]SBTRO, DR 227/82-5; and DR 227/118; In comparison, the Burton Brewing Company's inventory listed 75,893 casks in 1871, see Birmingham Central Library (BCL), Lee Crowden Collection, 1085.
[172]Sweatman, 'The Work of a Brewery Cooperage,' in *JIB*, p. 175.
[173]Gourvish, *Norfolk Beers from English Barley*, p. 66.
[174]Sweatman, 'The Work of a Brewery Cooperage,' in *JIB*, p. 190; Knox, *The Development of the London Brewing Industry*, p. 153; and Barnard, *The Noted Breweries*, I, pp. 63 and 221.
[175]Sweatman, 'The Work of a Brewery Cooperage,' in *JIB*, p. 187.

general, smellers were to have developed their skills over time; few were recruited from a cooperage's youngest members. Moreover, most men who worked in this capacity did so day after day for it enabled them to overcome a recognised 'critical period'. For example, W. Kinnear, a member of a London cooperage described his first days as a smeller when 'at first he could feel the muscles of his nose getting sore and his smelling power gradually diminishing'.[176] As he kept on with it, however, his nose got stronger and much more sensitive. Naturally, when Kinnear took his holidays, his skills decreased somewhat, but gradually returned again. As a result, many brewers, eager to prevent the infection of ale, believed it was in their best interests not to change their smellers.[177]

Opinions, however, were much more divided concerning the best way to cure stinkers. Many coopers simply shaved diseased casks. Others filled casks with water and stored them for several months. Those with limited storage space, such as brewers in London, relied on strong alkali to purify casks. Despite brewers' greatest efforts, most wooden casks appear to have lasted between eight and ten years.[178]

Surprisingly few casks were actually made at breweries in the late nineteenth century. Over the years, Flower & Sons had purchased considerable numbers from local timber merchants, Cox & Son, who also supplied the cooperage with most of its raw materials. In general, the majority of a cooper's time was spent repairing rather than making casks. The same can be said of those employed at Courage's cooperage in the first decade of this century; the brewers purchased most of their hogsheads from

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[176]Sweatman, 'The Work of a Brewery Cooperage,' in *JIB*, p. 187.
[177]*Ibid.*
[178]Molyneux, *Burton on Trent*, p. 250.

the Dunbar Cooperage Company, which, like many such specialised firms, eventually produced only machine-made casks.[179]

Besides identifying stinkers, senior coopers marked any damage to vessels with chalk, though excessive injury to an individual cask insured its destruction; any salvageable shives or hoops were kept for repairs. Thereafter, the department's foreman decided on repairs and allocated work to each member of his team. This ensured an even distribution of the most lucrative repairs and that no one man was continually occupied with particularly difficult tasks; consecutive rotten jobs, however, were also used to punish workers.[180] Alternatively, some coopers drew lots for work.

On occasion, ordinary brewery labourers were known to assist coopers. In Burton, labourers brought casks to the cooperage, swept the shop, ignited cressets, brought fuel for fires, as well as ale allowances, transferred materials to different departments and even supplied the power to turn the grind stones used to sharpen tools. Only rarely, however, were they permitted even to drive a hoop on a barrel. More often, such tasks were performed by apprentices. In general, the cooper controlled everything, including the materials used in repairs and cask construction, for certain woods, such as chestnut, were harder than oak and subsequently complicated work in general.

Most work was carried out by indentured tradesmen, each having been assigned his own carefully delineated berth, or block. Besides the noise and heat of the cooperage, the variety of tools used in the construction and repair of casks impressed those who observed the cooper at work. Even more impressive was that, despite their familiarity with a wide range of tools, coopers generally worked by eye alone; few used

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[179]CA, MA/S/1; and Sweatman, 'The Work of a Brewery Cooperage,' in *JIB*, p. 183. According to Sweatman, machinery was introduced in 1891 due to a lengthy strike in the trade.

rules or squares. Flower & Sons' coopers also frequently worked outside the cooperage. Since 1870, the brewery's coopers had access to a saw mill which contained both circular and band saws as well as a shive cutter, designed by Stratford engineers Ball & Horton.[181] Though presumably used almost daily, during the summer of 1900, two labourers operated the machinery to cut shives for over a month.[182] Generally, the cooper was busiest between November and June. Rather than perform less lucrative tasks during the slack months of the year, however, many either took holidays or, in Flowers' case, were even lent to local timber merchants, Cox & Son, where they once again made entire casks.[183]

After coopers had completed their repairs, all casks were examined, treated, numbered and registered before they were filled with ale and dispatched to the firm's customers. Initially all repaired casks were rolled into the brewery yard where they were inspected by the department foreman. Members of the trade have described the way in which head coopers often ran silk handkerchiefs along the insides of casks in order to detect poor workmanship, though any faults were just as easily discovered in the scalding shed.[184] At numerous breweries, watertightness was determined by filling casks a quarter way with boiling water, for steam oozed out of the slightest flaw.[185] Although machines for testing the capacity of casks, otherwise known as 'Lord Mayors', were introduced at some larger breweries, most coopers measured a cask's

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[180]Gilding, *The Journeymen Coopers of East London*, p. 44.
[181]SBTRO, DR 227/118
[182]*Ibid.*, DR 227/84
[183]*Ibid.*, DR 227/82
[184]Gilding, *The Journeymen Coopers of East London*, p. 5.
[185]Mayhew, *The Morning Chronicle Survey of Labour and the Poor*, p. 10.

capacity manually.[186] Usually this was done using a dipping rod. The most confident of coopers made their casks to the nearest pint, but even the work of the most skilled craftsman suffered excessive shrinkage when poorly treated. For this reason, Flower & Sons tested all of the casks it acquired from the smaller breweries its directors procured at the end of the nineteenth century. According to Archie Flower in a letter dated 16 March 1899, the brewery tested each newly-inherited cask twice.[187] Moreover, any of the firm's own coopers whose work was found to be short during random tests were instantly dismissed. Having 'racked a total of 218,000 casks in 1898 alone', however, made comprehensive tests impractical.[188] Most were gauged by the coopers themselves who relied only on the rough measure provided by a dipping rod. New casks, after being 'fired to a light brown colour', were also treated with a mixture of soda and water in order to neutralise the tannin contained in oak.[189] These were then branded with a particular number and even the firm's trade mark, and bung holes were bored before the casks were stored in cask sheds or brewery yards in carefully-stacked mounds until required. Those which remained outdoors were sprayed with water by a junior member of the cooperage or brewery staff in order to prevent further shrinkage.[190]

While the movement of casks between the scalding shed and the cooperage was frequently carried out by the youngest apprentices, filled casks, which often weighed more than 800 pounds, were moved about breweries by grown men. Even this task,

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[186]Barnard, *The Noted Breweries*, I, p. 33.
[187]SBTRO, DR 227/110
[188]*Ibid.* In 1894, Warwickshire County Council contemplated introducing a barrel measure law requiring all casks to be verified and stamped at a cost of a shilling per unit. After investigating the scheme, the board of local government not only realised the task of testing would be enormous, but would place the county's brewers at a distinct disadvantage given the added costs of brewing in Warwickshire, see *Brewers' Journal*, 15 October 1894; 15 January 1895; and 15 July 1895.
[189]H. A. Monckton, *The Story of the Brewer's Cooper* (1981), p. 25; and *Brewers' Journal*, 15 July 1893. The use of sodium carbonate also turned the insides of casks a deep brown.

however, had been facilitated in a number of ways. Most brewery cellars contained steam-operated elevators. Furthermore, cellars and brewery yards were striated by networks of partially-buried rails on which casks rolled easily. Finally, sidings, built level to wagon beds, facilitated the loading of two and four-wheeled drays, which carried between five and fifteen butts each. Unloading at some distance from these conveniences, however, was rarely a hardship either. Aided only by a crude ramp constructed of two conjoined, wooden poles, draymen easily delivered their heavy loads to the proprietors of public houses and private homes. Besides assisting the cellarmen who usually assembled orders a day in advance, draymen were also responsible for feeding the horses which pulled their drays when away from the brewery. Consequently, most left space on their wagons for a bag of oat and bean meal; having rested only at scheduled destinations, horses ate from nose bags while they travelled.

While horses delivered ale in the brewery's district, stablemen cleaned their stalls. Primarily this involved collecting manure and replacing the animals' bedding with fresh straw, which was usually stored in a stable's extensive corn lofts; these also contained fodder chambers and grinding rooms where animal feed was prepared. When at the brewery, horses were fed once in both the morning and evening; they were fed twice while they made deliveries. Moreover, stablemen regularly clipped horses and brushed them after they returned from each day's journey. Occasionally, these labourers were also called on to care for injured animals, though the slightest ailment was almost always treated by a local veterinary surgeon, if the head of the brewery stables was not trained in this capacity already.[191] Precautions taken by staff, however,

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[190]Monckton, *The Story of the Brewers' Cooper*, p. 24.
[191]SBTRO, DR 227/9; Barnard, *The Noted Breweries*, II, p. 91; III, p. 264; and IV, p. 22.

kept such visits to a minimum. For example, labourers prevented strain among these quadrupeds by carefully weighing loads and checking the condition of horseshoes and harnesses, the latter of which were regularly cleaned and polished by stablemen. Nevertheless, most stables contained a number of sick boxes where ill horses could be isolated. Ordinarily, however, every healthy animal was provided with sufficient rest in order to recover from its journeys. Approximately 5 per cent of a brewery's horses rested each day.[192] Moreover, each horse was restricted to 100 miles of travel a week. Like their four-legged companions, draymen were not sent on lengthy consecutive outings.[193] As a result, draymen were usually paired with the same horses each day, a decision which naturally improved the treatment of horses.

In general, a brewery required fifty horses for every 100,000 barrels it sold.[194] Numbers, however, varied depending on a brewery's local trade and the amount of sales contracted to private carriers. In the late nineteenth century, Flower & Sons appears to have had approximately thirty horses, though many were based at branches in other provincial towns. The majority were purchased from noted local breeders of heavy horses, such as Alfred Horne of Stratford and Thomas Hodges of Long Marston, and cost the brewery between thirty and sixty pounds each.[195] Most breweries also kept between three and ten nags which were used to transport salesmen. Horses remained with the brewery until infirm and were then either shot or sold to Mr Gibbs, a local butcher, who prepared the meat for foreign consumption. Over the average ten-year career, less in London, the cost of maintaining a horse matched a drayman's wages, especially as the management of horses generally improved among

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[192]Sheather, 'The Care and Management of Heavy Horses,' in *JIB*, p. 637; and Barnard, *The Noted Breweries*, III, p. 364.
[193]Riley, 'Brewery Labour Problems,' in *JIB*, p. 157. The shortest routes were also usually reserved for the oldest draymen.
[194]Gourvish and Wilson, *The British Brewing Industry*, p. 143.

brewers by the end of the nineteenth century.[196] Surprisingly, however, the first paper relating to the care and management of horses was presented before the Institute of Brewing by C. Sheather in 1912, the same year George Lowcock spoke to the organisation on the subject of motor vehicles and breweries.[197] Though Sheather's paper surely did not represent the practices of every brewer, it more than likely applied to Flower & Sons whose proprietors had always taken a heightened interest in stable management. In fact, at the end of his brewing career, Edward Flower had been dubbed 'The Missionary of Horses' for his efforts 'to abate the misery of...carriage-horses'.[198] Moreover, his third son, William, considered an authority on the horse, complemented his father's emotional pleas for the more humane treatment of horses with scientific evidence which he derived during his term as director at the Museum of Natural History in South Kensington.[199]

Despite a late drive by brewers to introduce modern nutritional research to brewing stables, the duties of stablemen, more than those of any other brewery labourer, most closely resembled those of agricultural labourers. Besides feeding horses and cleaning stables, drays and other carts, most fitted harnesses and regularly groomed the brewery's several dozen horses. Consequently, stablemen also frequently

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[195]SBTRO, DR 227/47

[196]The average working life of Watney's horses in 1890 was only four years, seven in 1895. On average each horse travelled approximately twenty miles a day, see *Brewers' Journal*, 15 October 1896. 'Cast' horses from breweries, however, were very keenly sought after by other manufacturers and traders and many often continued to work after having been rejected by brewers, though usually less strenuously. Nevertheless, even though there was a market for their oldest horses, brewers bore the cost of the animals' depreciation, see E. J. T. Collins, 'The Farm Horse Economy of England and Wales in the Early Tractor Age, 1900-40,' in Thompson (ed), *Horses in European Economic History*, pp. 87-9.

[197]Sheather 'The Care and Management of Heavy Horses,' in *JIB*; and G. Lowcock, 'Motor Vehicles for Brewers,' in *JIB* (1912). Articles concerning the management of horses, however, had appeared in other journals some years earlier. For example, see *Brewers' Journal*, 15 April 1894; 15 April 1896; and 15 October 1905.

[198]S. Smiles, *Duty* (1936), p. 309.

[199]See C. J. Cornish, *Sir William Henry Flower* (1904); *Stratford Herald*, 23 August 1889; Flower's entry in *DNB*, as well as his obituary in the *Herald*, 7 July 1899.

suffered from criticisms usually reserved for rural farm labourers. Even brewers sometimes described the average horsekeeper as 'a thickheaded person'.[200]

On the other hand, draymen were more commonly described as 'picturesque'.[201] Traditionally dressed in a red cap and white top coat, the drayman, like the brewery traveller, by whom he was occasionally accompanied on his rounds, was regarded as a form of mobile advertisement.[202] Moreover, draymen spent much time among brewery clients and subsequently developed important links with customers. In contrast to their employers, who frequently stressed the good feeling which characterised relations between master and servant, draymen often stressed the bonds which existed between themselves and the firm's customers.[203] Few brewers did not recognise the importance of the drayman's public role. Each action outside the brewery could either improve a firm's image or, just as often, cost the firm sales. Consequently, in 1896, Archibald Flower reprimanded a drayman 'who should have exercised more courtesy and politeness' following an accident, regardless of fault.[204]

By the turn of the century, however, draymen were no longer the only brewery labourers employed outside the brewing plant. In 1905, Flowers hired Edward Wooton to drive and take charge of its first steam lorry.[205] For five days a week Wooton

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[200]Sheather, 'The Care and Management of Heavy Horses,' in *JIB*, p. 644.
[201]Pudney, *A Draught of Contentment*, p. 69.
[202]Mathias, *The Brewing Industry in England*, p. 78; Janes, *The Red Barrel*, p. 140; Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 137; and *Brewers' Journal*, 15 April 1905. According to Stanley-Smith, the 'ancient custom' of the red cap began to disappear at the turn of the last century.
[203]*Stratford Herald*, 21 January 1898.
[204]SBTRO, DR 227/110
[205]*Ibid.*, The steam lorry was purchased from the Straker Steam Vehicle Co. Ltd, of 9 Bush Lane, London for £500. Additional costs included £11 18s. 5d., which Flower & Sons paid Cox & Son to construct the house in which to park the vehicle, £10 for a set of tools with which Wooton was to maintain the engine and 5s., the cost of his driver's license; in its first year of operation, the engine consumed £18 of coke. At this time, approximately one hundred such vehicles were being operated by London brewers alone, see *Brewers' Journal*, 15 April 1905. Motor lorries began to play even more important roles in the trade at the end of the first decade of the twentieth century with the commencement of railway strikes and the First World War, as the government began to requisition many brewers' horses, along with those of other businessmen.

travelled the roads in the district delivering casks of pale ale; on Saturdays he cleaned and cared for his steam vehicle's engine. Having agreed to no overtime pay, Wooton usually returned from his journeys early and helped loading and unloading in the cellars and, more importantly, taught Court and Eastbury, two brewery labourers, the art of driving a motorcar.[206] Despite his other menial tasks, Wooton was regarded as superior to ordinary brewery labourers and even draymen due to his mechanical abilities.

Divisions among labourers, however, had always existed at breweries. Nevertheless, at firms such as Flower & Sons, these became only more accentuated with increased specialisation introduced during the last years of the nineteenth century.

Many of the duties described in this chapter were carried out by labourers who fulfilled more than one post at Flower & Sons. As a result, as long as production remained seasonal at Flowers, workers were rarely associated with a single task, for transfers kept individual workers moving throughout numerous brewery departments.

Although the introduction of refrigeration technology did not radically change the brewing process as described, the introduction of year-round production did dramatically alter the duties of each individual labourer. At Flower & Sons in 1914, labourers' duties, comparatively unchanged since 1870, varied considerably less than they had approximately fifty years earlier. Naturally, the size of each individual brewery to a large degree also determined labourers' tasks and the way in which the labour process was managed. The latter, however, is the subject of subsequent chapters.

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[206]Ordinary draymen were occasionally appointed as steam-lorry drivers, but usually only after they had been sent for one month to the works of a manufacturer where they were taught to drive, see *Brewers' Journal*, 15 January 1909.

Chapter Five: 'Good masters make good men'[1]

By 1890, Flower & Sons employed approximately three hundred workers. More than two hundred of these men laboured in the brewery and maltings, approximately thirty were travellers or clerks in Stratford, while the remainder worked at agencies in London, several administrative and industrial centres in the Midlands and even Ireland. Over a few decades, and approximately two generations, the Flowers had become one of the wealthiest families in Stratford. Moreover, as the family's business had begun to prosper, a certain amount of their wealth returned to the community in charitable form. A considerable amount also went to the firm's workers. While donations to entire communities allowed the affluent, among other things, to indulge in the act of reputation building, nineteenth-century entrepreneurs expected a return on all gifts which they granted their workers. The expense associated with benevolence was in fact an investment, which was repaid in the form of loyal service. In an age with very little managerial understanding, paternalism became an important, if not the predominant, method of labour management in breweries.

As in the days when Edward Flower first brewed in Stratford with the help of half a dozen hands, brewery employees in the late nineteenth century laboured in a very paternalistic environment.[2] Brewers regularly cultivated intercourse with hands beyond the 'cash nexus'. Many employers improved their dealings with workers through the introduction of numerous bonuses, including beer allowances, feasts and seaside holidays in summer and Christmas beef in winter. Moreover, the generosity of many brewers extended to a much wider locale, for many donated considerable wealth to the

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[1] Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 137.

towns in which their businesses had prospered. Among the Flowers' chief benefactions was the Shakespeare Memorial Theatre, built on land given to Stratford by Charles Flower, the town's 'leading benefactor', in 1879.[3] In addition, the brewer and his wife, Sarah, 'Stratford's greatest benefactress', donated considerable sums to hospitals and other local charities.[4] Most successful brewing families demonstrated an equal concern for the welfare of their communities. At times there did not seem to be a limit to the charitable activities of the largest brewers in the British Isles.[5] Some funded the construction and reconstruction of hospitals, schools, churches and even theatres. While the Guinness family restored St Patrick's Cathedral in Dublin at a cost of £150,000 in 1865 and donated a further £250,000 to the Jenner Institute to promote research in bacteriology in 1899, other proprietors, such as London's Truman, Hanbury, Buxton & Company, returned rents to their tenants after failed harvests.[6] When businesses passed to children at death, many brewers bequeathed even greater sums to charities and institutions and, by doing so, cultivated an image of brewers as the most benevolent of employers. According to the editors of the *Stratford Herald*, as a result of Charles Flower's death, the local poor lost 'a firm and steadfast friend'.[7]

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[2]Gourvish and Wilson, *The British Brewing Industry*, p. 198; Donnachie, *A History of the Brewing Industry in Scotland*, p. 95; and Wilson, *Greene King*, p. 79.
[3]*Stratford Herald*, 11 December 1891; and Beauman, *The Royal Shakespeare Company*, p. 11. Interestingly, Charles Flower obscured the scale of his donation to the town. Not only did he contribute the first £1000 to the theatre fund, but many believe he paid the majority of construction costs.
[4]*Stratford Herald*, 24 July 1908; and SBTRO, PR 95. On her husband's death, Sarah personally presented all brewery workers, who had been with the firm two years or more, with a cash gift. On the occasion, which took place at Avonbank, the couple's home in Stratford, Mrs Flower 'expressed the hope that the present would be the means of encouraging thrift among the recipients', see *Brewers' Journal*, 15 November 1892.
[5]*Brewers' Journal*, 15 March 1867.
[6]Lynch and Vaisey, *Guinness's Brewery in the Irish Economy*, p. 181; *Brewers' Journal*, 15 June 1880; 15 August 1896; and 15 January 1899.
[7]*Stratford Herald*, 6 May 1892.

The role of paternalism in English society has always attracted the attention of historians.[8] Traditionally associated with rural communities, paternalism, characterised most often by the relationship of the Lord of the Manor and his subjects, conferred duties upon both parties, especially the property owner.[9] In exchange for easing the worries of their tenants, and offering the poorest a degree of security during periods of hardship, rural landlords expected hard work and obedience from hired help as well as deferential treatment in general. While this secured members of the landed gentry their superior positions in the social hierarchy, this policy could also introduce a degree of stability to an industrial workforce. Its most efficient practitioners exercised much authority. The provision of housing to workers, for example, gave some employers considerable control over employees, as dismissal also implied homelessness. Not surprisingly, early industrialists recognised the value of this system as a managerial strategy.

Despite such extremes, paternalism promised cordial relations, and usually emerged from an intimate workshop environment. Having begun their careers in small firms, entrepreneurs, like Edward Flower, worked alongside their employees and dealt with most, if not all, on a very personal level, encountering their labourers almost daily at work if not in local shops and markets. Even after a business or, more importantly, its workforce assumed much larger proportions, many owner-managers continued to practise very personal managerial strategies. For one thing, paternalism was seen as an effective antidote to new unionism.[10] Even at those firms where greater responsibility was being delegated to non-family members, workers were continually reminded at

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[8]See, for example, A. P. Thornton, *The Habit of Authority: Paternalism in British History* (1966); D. Roberts, *Paternalism in Early Victorian England* (1979); and Joyce, *Work, Society and Politics.*
[9]Roberts, *Paternalism in Early Victorian England*, p. 4. According to Roberts, the phrase 'property has its duties as well as its rights' became, in the 1840s, the hallmark of the paternalist.

company-sponsored events that, despite being waged labour, they were an integral part of a family firm and could expect to be treated not only fairly, but even as kin, though usually poor cousins.

Such fraternal gestures regularly allude to paternalism's religious roots. Most discussions of paternalism deal extensively with its religious origins and the beliefs of its most devout practitioners. By the nineteenth century, however, religious ideals continued to be diffused widely throughout society. For example, the rights and especially the duties of the individual became incorporated into many secular literary works and were regularly highlighted by social theorists, politicians and economists who debated ideas of citizenship and the limits of government authority. Moreover, by this time, England was a mature industrial economy, producing its share of social ills, leading many concerned parties to debate the 'condition of England'. A community of scientifically-educated individuals also confronted the less-desirable aspects of industrialisation. Ordinary citizens encountered the 'social problems' of industry in newspapers and contemporary fiction.[11] Clearly, not only membership of a religious group brought opposition to some of the injustices associated with political economy.

Nevertheless, still often inspired by religious ideals, paternalist community leaders, like the Flowers, also attempted to maintain the existing economic order by instilling industrially-useful sentiments, for example, thrift and self-help, often by funding particular charities, such as industrial training homes. By the last decade of the nineteenth century, Archie Flower had even begun to introduce schemes designed to

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[10]Drummond, '"Specifically Designed"?' in *Business History*, p. 12; and Joyce, *Work, Society and Politics*, p. 149.

[11]See, for example, C. Dickens, *Hard Times* (1854); E. Gaskell, *North and South* (1854); and G. Gissing, *The Nether World* (1889).

make the unemployed work for their benefits.[12] As a result, paternalism, originally set against ideas of laissez-faire, transformed and appeared to be the logical outcome of free trade.[13] The very flexibility of the practice left room for interpretation and promised further modifications. Consequently, historians have had a particularly difficult time dealing with the concept of paternalism; a definition remains elusive.[14]

While the benevolent paternalism of the Flower family may have been inspired by a nonconformist religious heritage, it can also be traced to various secular traditions. For example, besides the teachings of the Unitarians, it was also open to the influence of the Utilitarians. According to John Stuart Mill, the relationship between workers and their superiors was to involve an exchange of 'affectionate tutelage' for 'respectful and grateful deference'.[15] Though Charles Flower's library does not appear to have contained this particular volume of Mill's writings, it did include various other texts which addressed this subject. Besides comprising several religious volumes, such as Thorn's *Laws of Life* and the more secular works of Sydney Smith, Flower's library did contain George's *Progress and Poverty* and John Stuart Mill's *On Liberty*,[16] which, along with advocating the freedoms of conscience and opinion, suggests communities are best managed by local worthies, due to the imperfect moral cultivation of mankind.[17] These ideas, however, had been transformed into a social

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[12]*Stratford Herald*, 8 December 1892. The particular scheme put forward by Flower on this occasion involved unemployed residents of the town draining a local field for athletics purposes.

[13]Joyce, *Work, Society and Politics*, p. 138.

[14]A. Weale, 'Paternalism and Social Policy,' in *Journal of Social Policy* (1978), p. 157; Roberts, *Paternalism in Early Victorian England*, pp. 5-9; M. Huberman, 'The economic origins of paternalism,' in *Social History*, XII (1987), p. 98; and P. Ackers, 'On Paternalism,' in *Historical Studies in Industrial Relations* (1998), p. 175.

[15]Mill (in *Principles of Political Economy*) in H. Newby, *The Deferential Worker* (1977), p. 425. Two themes, however, also ran through Utilitarianism, making it as contradictory as paternalism: laissez faire and government controls to maximise efficiency, see, for example, A. Wood, *Nineteenth Century Britain, 1815-1914* (1982), p. 47.

[16]SBTRO, DR 50/1

[17]J. S. Mill, *On Liberty & The Subjection of Women* (1996), p. 109. In his earlier work, *Principles of Political Economy* (1848), which was not included in Flower's library, Mill more thoroughly

theory decades earlier and were also expressed by Ure (whose influence on Flower has already been discussed in Chapter Two) in his *Philosophy of Manufactures*. Perhaps both religious and secular traditions influenced Flower's own style of paternalism. This would, for example, explain the contradictions which arise from a discussion of his charitable works.

The paternalistic tradition associated with the family, however, did not begin with Charles Flower, despite the fact that he is recognised as its most famous benefactor. His grandfather, Richard Flower, frequently opposed government control in efforts to condemn taxes which fell heavily on the poor before leaving England for America with his family in 1818.[18] After settling on the other side of the Atlantic, Flower's eldest son, George, together with Morris Birkbeck, founded what was to be a more just society at Albion in Edwards County, Illinois. George, who possessed 'a large wealth from husbandry', assumed 'a commanding, responsible...and laborious position in the new colony'.[19] Contesting attempts to legalise slavery in the state in 1823, George Flower gained the respect of contemporaries, who recognised his calm wisdom and benevolence, and remembered him as a 'philanthropist of large and noble aims'.[20] Not only was Charles's father, Edward Flower, raised in a community which in many ways resembled Robert Owen's New Lanark, but, after returning to England in 1824, Flower & Sons' founder visited the famous philanthropist in Scotland. Edward spent approximately six months learning about his host's enlightened enterprise before commencing an apprenticeship as a corn merchant.[21] After establishing his own

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discusses the duties of 'the higher class' in relation to the workers. Henry George, meanwhile, suggested poverty and progress was the 'great enigma of [his] times, with which statesmen, philanthropy and education grapple[d]', see H. George, *Progress and Poverty* (1913), p. 12.

[18]Foulkes, 'Edward Flower and the Shakespeare Tercentenary,' in *Warwickshire History*, p. 74.

[19]*Stratford Herald*, 16 May 1862.

[20]*Ibid.*; and G. Flower, *History of the English Settlement in Edwards County Illinois* (1882), p. 13.

[21]Smiles, *Duty*, p. 322.

business in Stratford, Edward Flower was able to implement many of the concepts he had encountered in Illinois and Scotland and developed his own particular method of labour management before his sons took over at the brewery.

Clearly, many traditions of paternalism influenced Charles Flower. The main concern of this chapter is to examine a form of benevolent paternalism as practised at one brewery between 1870 and 1914. Furthermore, existing evidence demonstrates the way in which this system changed over time. Never did it disappear entirely. Often, soon after their introduction, particular forms of benevolence assumed traditional status, thereby making it very difficult for directors to abolish these practices without breeding resentment among workers. Instead of ending entirely, as has been suggested by some historians, including Patrick Joyce, these spontaneous gestures were often institutionalised and regulated in order to prevent a particularly flexible managerial strategy from becoming a financial burden.

In most cases, the wages paid to brewery workers were not themselves an unmanageable burden. Historians estimate that workers' wages comprised less than 10 per cent of brewery costs (see Table 11).[22] The level of brewery workers' earnings was slightly above average. In general, wages paid to brewery workers were on a par with those earned by most semi-skilled, urban workers and, in all cases, surpassed those of agricultural labourers.[23] In 1880, the average brewery worker at Flower & Sons received approximately 18s. per week;[24] in 1881, Warwickshire's agricultural labourers

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[22]Donnachie, *A History of the Brewing Industry in Scotland*, p. 200. According to the trade's critics in the late nineteenth century, brewery wages comprised only 7.5 per cent of receipts compared to 22.6 in textiles, 29 in agriculture, 30 in railways and 55 in mining, see *Brewers' Journal*, 15 December 1894. In the trade's defence, Satchell Hopkins calculated that wages comprised 28 per cent if one were to include all of the ancillary trades associated with brewing, see *Brewers' Journal*, 15 March 1894.
[23]SBTRO, DR 730/15; J. Benson, *The Working Class in Britain, 1850-1939* (1989), p. 53; and Board of Trade, *Abstract of Labour Statistics*, 1906.
[24]SBTRO, DR 227/82

earned about 14s.[25] On average, by the turn of the last century, brewery labourers worked ten-hour days in the provinces, though eight-hour days were already becoming the norm in breweries based in large towns.[26] Not all workers, however, were paid weekly. Out of 150 brewery workers listed in Flower & Sons' ledgers in the 1870s, a dozen always seem to have been paid by the day. Moreover, coopers tended to be paid by the piece. Besides their hourly rates, draymen were also paid an additional fee for each empty returned to the brewery as an incentive to retrieve casks promptly after use. The standard hourly rate for general brewery labourers during these years appears to have been 3d., but most workers received an additional penny an hour on Saturdays.[27]

Different work, however, also implied different pay. Those individuals employed in the firm's stables or maltings in the 1880s received 19s. weekly and were paid extra for tasks, such as cleaning kilns. Thomas Kemp, who was in charge of the stables, on the other hand, received an extra shilling a week for his responsibilities. Foremen in each malt house received between 21s. and 26s. per week depending on their seniority, the size of the malt house and the number of men supervised. Similar wages were earned by a number of the brewery's tradesmen. Soon after the construction of the new brewery, Flowers employed numerous carpenters, painters and even plumbers who constructed additional buildings, painted both the brewery and public houses and maintained the miles of lead and copper pipes which ran through the firm's facilities. In general, these workers received 7d. an hour, more than twice the standard rate of pay; maximum rates were also frequently fixed. No such restrictions, however, limited the earnings of Flower & Sons' coopers, the brewery's highest paid

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[25]Newby, *The Deferential Worker*, p. 36. Ten years later their average wage had dropped to 11s. 6d.
[26]Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 132.

manual labourers. Coopers frequently earned more than 40s. a week. George Lambert, foreman of the brewery's cooperage during the last decades of the nineteenth century, regularly earned more than 80s.[28] Given his sizeable earnings, Lambert was able to open a china business, which further supplemented his income. Although most late-nineteenth century census returns list Lambert as a 'cooper and dealer in china', the business was run by his wife and daughters and outlived the brewery.[29]

While workers were regularly granted rises as they moved through the brewery ranks, wage increases tended to be awarded individually. Not unusually, given the lack of union organisation among brewery workers, only one or two workers during each three-month pay period received a rise. In general, workers who desired rises made individual requests, and each case was judged on its own merits. As a result, some workers' wages remained conspicuously static and rose more slowly than those of other workers between 1870 and 1914. Joshua Knight, for example, although employed in the brewery for approximately fifty years, received only 15s. a week between 1882 and 1894.[30] Thereafter, brewery wages in general appear to have stagnated temporarily.[31] According to trade journals, brewery labourers' average wages were only 26s. 3d. in 1906, not including boys' and women's earnings, which would have lowered the figure substantially.[32] In 1914, higher wages all round were eventually introduced at Flower & Sons, as at other firms, in order to attract labour, given the shortage brought about by the war.[33] Nevertheless, according to the *Journal*

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[27]SBTRO, DR 227/85
[28]SBTRO, DR 227/83
[29]The business is listed in local trade directories until the 1970s, when they ceased publication. Flower & Sons, on the other hand, ceased to brew in 1969.
[30]SBTRO, DR 227/83
[31]Gourvish, *Norfolk Beers from English Barley*, p. 78.
[32]*Brewers' Journal*, 15 May 1913. See also Fitzgerald, *British Labour Management and Industrial Welfare*, p. 18.
[33]SBTRO, DR 227/85; and Riley, 'Brewery Labour Problems,' in *JIB*, p. 144.

of the Operative Brewers' Guild, the average brewery workman was still 'so poorly paid that it [did] not entail much expense in wasting his time'.[34] Moreover, increases after this date generally continued to be granted on an individual basis.

Salaried staff at the brewery, on the other hand, not only received more regular pay increases, but their earnings generally exceeded those of labourers. The average clerk at Flower & Sons earned between £10 and £15 a month between 1880 and 1890.[35] Department heads earned as much as £25, whether employed in the brewery or in the firm's offices. Head brewers, on the other hand, frequently earned between £300 and £600 a year. Generally, as has been argued elsewhere, the high salaries paid to managers contrast with workers' modest earnings.[36] Besides a standard monthly salary, sales staff also received a commission equivalent to one per cent of sales, which in the case of the firm's Birmingham manager at the turn of the last century averaged approximately £225 a year.[37] Some salesmen received commissions equivalent to two or even 3 per cent of sales;[38] higher percentages were usually given to travellers for free, as opposed to tied, trade sales.[39] Moreover, ledgers reveal that office staff on average could expect a salary increase every two years.

There are, however, numerous ways to encourage loyalty and effort besides paying a regular wage. The most common method, besides offers of holidays, health care and housing, was the cash bonus. In 1912, for example, the *Brewers' Journal* reported the case of a maltster employed at Morgan's Brewery in Norwich who earned 17s. a week, which increased to 24s. after all his bonuses had been calculated.[40] At

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[34]*Journal of the Operative Brewers' Guild*, July 1914.
[35]SBTRO DR 227/8, 9 and 100
[36]Pollard, *The Genesis of Modern Management*, pp. 139-41.
[37]SBTRO, DR 227/110
[38]*Ibid.*, DR 227/100
[39]*Brewers' Journal*, 15 May 1896.
[40]*Brewers' Journal*, 15 January 1912.

Flower & Sons, bonuses also increased a number of workers' earnings. Maltsters, for example, generally received a bonus at the end of the malting season. Many earned an extra 4s. for every week they worked at the brewery. Ordinary brewery workers received a pound at the end of each brewing season.[41] A similar bonus awaited clerks when books were put in order at the conclusion of each financial year. Moreover, certain business achievements were celebrated not only by staging lavish banquets, but by granting workers a financial reward. To celebrate their first hundred years in business, for example, the owners of Steward, Patteson, Finch & Company gave all clerks a 5 per cent salary bonus, workers a week's pay and all employees a commemorative medal struck especially for the occasion.[42] Almost all breweries presented labourers with some sort of gift on the occasion of Queen Victoria's Jubilee.[43] When Flower & Sons became a limited liability company in 1888, Edgar Flower 'wished to acknowledge the services of some of the [firm's] senior employees' and did this by granting them ordinary shares worth £10 each.[44] As long as these individuals remained with the company they were entitled to collect their yearly dividends. Numerous other breweries which went public in these years made similar offers to workers. For example, Bass's owners paid out more than £12,000 of their first share issue to employees; each foreman received £2, ordinary adult workers collected a pound and each boy was paid 10s.[45] Employees of many other firms received comparable honoraria, or benefited from profit-sharing schemes for a time.[46]

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[41]SBTRO, DR 227/84
[42]*Brewers' Journal*, 15 August 1893.
[43]*Ibid.*, 15 June 1897; and 15 July 1897.
[44]SBTRO, DR 227/110
[45]*Brewers' Journal*, 15 February 1888.
[46]*Brewers' Journal*, 15 February 1889; 15 July 1890; 15 October 1895; 15 March 1897; 15 April 1912; 15 August 1913; and 15 February 1914. Profit-sharing schemes were introduced at Messrs Hancock & Co., Cardiff, Ash & Co., Canterbury, Russell & Wrangham Ltd, Malton, North Yorkshire,

Despite also being offered more frequently, bonuses paid to salaried workers regularly exceeded those given to labourers.[47] Although Sir Edward Guinness presented a bonus to all his workers upon his retirement, labourers received a week's wage while clerks took home an extra month's salary.[48]

Though such practices may have discouraged some workers, individual bonuses were used by employers in order to instil certain standards among their employees. Not surprisingly, financial rewards were regularly presented to workers who performed well over a given period of time or in certain difficult circumstances. For example, in the spring of 1900, William Wasley received an additional five shillings 'for finding [a] defect in [the] cylinder cover of [a] gas Engine'.[49] In 1867, approximately six (5 per cent) of the firm's one hundred and twenty men received bonuses during each three-month pay period.[50] This percentage remained constant for several decades.

Occasionally, bonuses were less spontaneous. Often certain tasks carried with them the promise of additional pay. For example, maltsters who volunteered to clean kilns often received extra pay, as did clerks who put certain ledgers in order. Such cash gifts appear to have been common at many other breweries and businesses during this period and provided employees with numerous opportunities to increase their earnings.[51]

Fines, on the other hand, were more difficult to enforce. The first deduction in a worker's wage appears to have been made in 1870, when a drayman was fined for an

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Stroud Brewery Co. Ltd, Gloucestershire, T. Linsley & Co., Ltd, Hull and Lloyd and Yorath Ltd, Newport, Gwent.

[47]SBTRO, DR 227/100

[48]*Brewers' Journal*, 15 September 1890.

[49]SBTRO, DR 227/84

[50]*Ibid.*, DR 227/82

unspecified offence.[52] Presumably, the worker was guilty of 'trotting', for this infraction was regularly committed by delivery staff during these decades. In general, brewers faced fines when their draymen travelled along public routes at more than two miles an hour. Unlike Guy Senior of the Barnsley Brewery in South Yorkshire, who gladly paid these penalties due to their 'first-rate advertising value', Flowers demanded that draymen pay their own fines.[53] Those who continued to trot and incur penalties from local authorities faced more severe repercussions. A repeat offender was punished by being transferred to the brewery cellars. As the result of such a demotion in 1886, William Harris's wage declined from 19s. to 16s.[54] Nevertheless, Harris was more fortunate than a colleague, George Hancox, who was dismissed from the brewery for the same offence six years later. On another occasion, rather than pay a shilling fine, another drayman, Norman Smith, left Flower & Sons' service.

The difficulties faced when deducting from a labourer's weekly wage led Flower & Sons' managers more regularly to penalise workers by withholding their bonuses. Less than a year after Wasley was rewarded for discovering a 'fault' in a boiler cover, another labourer was denied a bonus at the conclusion of the malting season 'for letting [a] cistern turn over three times'.[55] Three years later, in 1904, Joshua Ryman, a foreman in one of the brewery's malt houses, had 5s. deducted from his bonus, presumably for a similar offence.[56] The following year, Fred Baylis, another maltster, also had 5s. deducted from his bonus for allowing a cistern to overflow.[57]

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[51] Janes, *The Red Barrel*, p. 182; and B. Morris and J. Smyth, 'Paternalism as an Employer Strategy,' in *Employer Strategy and the Labour Market* (1994), p. 196.
[52] SBTRO, DR 227/82
[53] Pudney, *A Draught of Contentment*, p. 135. Not only did Guy Senior willingly pay his fines, but for every subsequent conviction he promised to pay £10 to a local hospital.
[54] SBTRO, DR 227/82
[55] *Ibid.*, DR 227/84
[56] SBTRO, DR 227/84
[57] *Ibid.*

Though evidence suggests fines were occasionally used by brewers to punish workers for minor offences, as one of Mann, Crossman & Paulin's draymen discovered when he had his bonus and holiday cancelled in 1904 after being 'found smoking in [the] WC', generally, Flower & Sons' employees appear to have faced such deductions only when their actions either interfered with production or led the brewery's owners themselves to incur a fine.[58]

Besides cash bonuses, brewery employers provided numerous other inducements to their workers in order to ensure loyalty, obedience and good service. The most obvious was the ale allowance. According to C. Howard Tripp of the Tadcaster Tower Brewery, allowances at breweries varied from a quart to three pints a day.[59] Occasionally, however, even three pints was judged 'a moderate quantity'.[60] In his 'Practical Notes on Brewery Management' (1895), Arthur Hartley, of the Emsworth Brewery near Chichester, considered half a gallon sufficient to ensure good work from his labourers.[61] Although the quantity of ale granted to workers appears to have varied greatly, the distribution of ale to labourers was always carefully controlled. Those workers entitled to an allotment of ale either received tickets or brass tags from department heads which listed an employee's name or number, the time at which ale was to be collected and the purpose for which it was granted. Those who did not receive such tickets usually collected their own ale from a designated allowance room in a ceramic jar, clearly marked with a number which was recorded in a ledger by the

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[58]CA, MA/S/S

[59]Barnard, *The Noted Breweries*, I, pp. 31, 200 and 538; *Brewers' Journal*, 15 July 1889; and CA, MA/S/S. At Mann, Crossman & Paulin, for example, allowances varied from 2 pints for stablemen to 4 pints for coopers.

[60]SBTRO, DR 227/221. This is argued by Edward Flower's father, Richard, in his *Observations on Beer and Brewers* (1802).

[61]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 370.

trusted employee who distributed ale at the brewery. In general, ale allowances were always strictly regulated.

Workers, particularly those employed in maltings, continued to receive the largest ale allowances into the twentieth century. Stokers and maltsters had always received considerably more ale than other labourers, not only because they toiled next to furnaces and kilns, but also due to the laborious nature of the work the latter performed in dust-filled malt houses. Oral testimony collected by George Ewart Evans from Burton maltsters suggests workers were not granted a finite supply of ale, but occasionally received 'all the beer [they] could drink'.[62] Draymen, on the other hand, received ale from their employers and drank up to a pint for every barrel they delivered to publicans.[63] Often brewers were even more generous to members of the general public. Many 'freely refresh[ed] with the foaming tankard every man whom business or pleasure [brought] to the brewery, whether...a railway employé with a truckload of hops, or a tradesman with a parcel'.[64] Those who delivered 'loads of barley and coal, or who fetch[ed] away manure and spent hops, [were] invariably accompanied with jars capable of containing one or more quarts, while gangs of workmen employed on public roads and drains in the vicinity [sent] in deputations to requisition casks of beer holding nine, eighteen, or thirty-six gallons, according to the liberality of the brewer and the number of men represented'.[65] While such benevolence may also have been considered good advertising, such 'indiscriminate hospitality' was regarded by many in the trade to do 'more harm than good'.[66]

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[62]Evans, *Where Beards Wag All*, p. 260. Not surprisingly, this beer, known as *lack*, was much weaker than the standard beer most breweries produced. It was called *lack* because it lacked something, namely alcohol.
[63]*Brewers' Journal*, 15 March 1898; and 15 April 1905.
[64]*Ibid.*, 15 February 1894.
[65]*Brewers' Journal*, 15 February 1894.
[66]*Ibid.*, 15 July 1912.

Alternatively, some brewers, especially those who perhaps doubted the nutritional value of ale, supplemented their generous ale allowances with an allotment of coffee and biscuits. In a brewery where tasks commenced as early as four or five in the morning, this expenditure on the owner's behalf was 'amply paid for by the better work that was done before breakfast'.[67] Moreover, such a bonus actually kept workers at the brewery. Previously, many labourers had returned to their homes at meal times. Even some of a brewery's highest-paid workers, such as coopers, despite the allowances to which they were entitled, went to public houses to have their meals in order to escape from the work environment. Although some breweries had attempted to eliminate drink from the workplace by delivering approximately 12s.-worth of ale to workers' homes, this idea was abandoned during these years in order to keep men in breweries. Most brewers opposed the plan, for 'as long as there [was] beer in the house so long will the man remain, in which case he may be away from work some days'.[68] Often, those brewers most concerned with time-wastage, incurred when workers travelled between the brewery and their homes during breaks, established mess-rooms and canteens. The development of the latter service was limited, however, for, besides regarding this as an expensive undertaking, brewers believed this led them to compete with public houses, their most important customers.[69] The few breweries which established such facilities prior to 1914 included Guinness and Mitchells & Butlers. Most firms continued to provide workers with only mess-rooms, which,

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[67]Riley, 'Brewery Labour Problems,' in *JIB*, p. 167.
[68]*Journal of the Operative Brewers' Guild*, August 1914. A similar scheme, however, was introduced at most breweries some decades later.
[69]Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 139.

besides tables and benches, generally contained stoves on which labourers prepared their own food.[70]

Interesting, however, is that workers continued to receive ale from employers throughout this period, especially after the passage of the Truck Acts, which to some extent prohibited payments made in kind. Naturally, some brewers reduced the large ale allowances they had previously granted their workers in favour of higher wages, though none appears to have abolished them entirely. Those who attempted to eliminate allowances entirely found that workers immediately commenced thieving.[71] While most brewery proprietors continued to provide all adult workers with ale, it was no longer to be considered a right. Although not all workers accepted this form of reasoning, ale allowances after the 1887 Act were to be considered gifts that owners made at their own discretion. Recognised as acts of charity, such benefits only contributed to a brewer's benevolent image.

Although brewery canteens became more common only during the interwar period, ale allowances were no longer the only benefits that brewery workers received from their employers. In the early 1880s, employees regularly began to receive what was known as 'Christmas beef'. During the holiday season, Flower & Sons' workers each received a pound of beef; married workers received an additional pound and another half pound for each child. In 1882, one of the first years for which such records exist, the brewery distributed more than 460 pounds of beef to 176 workers.[72] Naturally, at the largest firms, such as Bass & Co., total gifts distributed on such occasions frequently astounded members of the trade, let alone the general public. In 1895, for example, the meat distributed among their hands 'amounted to over 26,000

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[70]N. Curtis-Bennett, *The Food of the People* (1949), p. 198; and Gospel, *Markets, firms, and the management of labour in Britain*, p. 49.

pounds of beef, 240 turkeys, 230 geese, 70 brace of pheasants, 60 hares and a large quantity of fowls and ducks'.[73] All of Flower & Sons' meat was purchased from local butchers Messrs Pearce, Lewis and Snow, who usually delivered the beef directly to the homes of brewery employees.

Christmas beef was also presented to publicans associated with the brewery. In 1882, owners and tenants of sixty houses received winter bonuses.[74] Not all publicans, however, received 'Christmas beef'. Depending on the amount of ale sold, publicans received as much as thirty pounds of prime beef, or, alternatively, should business have been sluggish, a single hare. Variations in gifts therefore also reveal complicated sales' histories. For example, not all publicans who sold 150 barrels of Flowers ale in a year, a figure which usually denoted healthy sales, received twenty to thirty pounds of beef at Christmas. Should a decline in sales have been apparent, publicans not only received less beef, but often a less tender cut. In 1881, after her sales had declined from 142 to 134 barrels in a single year, Mrs Hawkes, a publican in Bearley, complained to the brewery, as her beef was inferior to that sent previously; not surprisingly, Hawkes did not receive compensation.[75] Alternatively, even those publicans who did not sell as much as others often received an equal bonus if sales had noticeably increased over the year. Mrs Page of Stratford's Garrick Inn, normally allocated a goose at Christmas, was delivered a turkey by one of the brewery's stable boys after sales had improved by three barrels in 1882.[76] Even when sales remained unchanged, bonuses often did not. While a publican may have sold as much ale as in previous years, accounts were not always settled in a satisfactory manner. Consequently, in 1882, George Berry of

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[71]Riley, 'Brewery Labour Problems,' in *JIB*, p. 154.
[72]SBTRO, DR 227/112
[73]*Brewers' Journal*, 15 January 1896.
[74]SBTRO, DR 227/112
[75]*Ibid.*

Wasperton, who had not furnished the brewery with numerous overdue payments, received only a goose when a drayman visited him a few days before Christmas. When his accounts were eventually paid, amends were made by the brewery owners, who presented him with some additional ducks. Should accounts have remained overdue, Berry, like many other publicans, would have had his Christmas meat withheld entirely the following year.

Like the ale allowance, the presentation of Christmas meat continued beyond the First World War. Some evidence, however, suggests the brewery had in fact become less generous than in previous years. For example, by 1906, although 200 brewery workers received such a bonus, they took home just under 250 pounds of beef.[77] The fact that 137 men were married and 108 had children suggests that bonuses no longer went to families, but only to workers. On the other hand, more labourers, namely part-timers, who were not granted bonuses in the past, had been added to the brewery's Christmas list. Moreover, in the first years of the twentieth century, Flower & Sons' holiday bonuses extended to a much wider network, including railway workers, with whom the brewery did a considerable business. Employees of the Great Western Rail Company in Stratford, as well as Evesham, Fladbury, Pershore, Campden, Blockley, Moreton, Shipston and Broadway, received a substantial amount of Flowers India Pale Ale in half-pint bottles. W. H. Doonan, a local postal clerk, also took dozens of pints home during holidays in these years, as did the recipient of perhaps the most questionable of bonuses, Mr M. Walters, an officer with the Inland Revenue! By the end of the nineteenth century, however, the acceptance of such gifts was at least questioned by some authorities. For example, a case of champagne which

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[76]SBTRO, DR 227/112
[77]*Ibid.*

had been sent by a brewer to Liverpool police superintendents responsible for his licensed houses was tactfully returned in 1897 by the branch's head constable with a simple note: 'there ha[s] been some mistake'.[78] The Birmingham Watch Committee also resolved to abolish Christmas presents to police officers the following year, as did committee members in Manchester in 1899.[79] By the end of 1907, brewers' gifts were eventually reviewed in accordance with the Prevention of Corruption Act (1906), though officials ruled that such gratuities were illegal, only if they were not consented to by recipients beforehand.[80]

Besides presenting employees with beef in winter, Flower & Sons periodically fed workers in the warmer months of the year, as these years witnessed the firm's first company-sponsored outings. More than simple bonuses, picnics and excursions were to foster good feelings between employees and their superiors, as well as help promote the formation of a company identity. The first of these events appears to have been held in August 1869 when 300 people enjoyed 'dancing and rustic sports' on a field alongside the Avon belonging to Mrs Chambers of Milcote. Participating equally in all amusements, employees' wives and children were served only tea and cake, while men were offered the sustenance of meat and ale.[81] Perhaps not the first picnic organised by the brewery, it was the first event staged outside the brewery's own buildings, attracted the interest of many of the region's inhabitants and was reported in the local newspapers.[82]

Successive outings were even more elaborate events and were held each year until 1914 when interrupted by war. Approximately a decade after the brewery's first

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[78]*Brewers' Journal*, 15 January 1898.
[79]*Ibid.*, 15 December 1898; and 15 December 1899.
[80]*Ibid.*, 15 December 1907.
[81]*Stratford Herald*, 27 August 1869.
[82]Flower, *Great Aunt Sarah's Diary*, p. 71.

picnic, more than 500 people attended what had essentially become a town feast and required weeks to prepare (see Table 12).[83] The event at which Charles Flower announced his retirement in 1888 resembled a small fair and attracted approximately 1000 guests, including 250 brewery labourers.[84] Having again convened in a local field, guests feasted on several hundred pounds of beef, mutton, veal and pork, along with generous portions of vegetables, bread, butter and various condiments. For dessert employees consumed approximately two hundred pounds of plum cake and smoked a dozen pounds of tobacco; those without pipes obtained clay pipes which breweries distributed on these occasions and in their public houses. Lunch was held in four tents, each of which exceeded one hundred feet in length and had been constructed by local timber merchants, Cox & Son. Employees sat alongside publicans and distinguished guests in four rows of tables which ran the length of each tent and, while most naturally came to enjoy the brewery's ales, milk and gingerade were also in abundance. Besides racing for prizes and competing in a tug-of-war during the afternoon, employees and their families were treated to a performance of the local militia's sixteen-man band. Furthermore, the event provided an income to the wives of several employees who took many days to roast meat, prepare food items, iron table cloths and, eventually, wash up. The picnic also proved profitable for Flower & Sons' enterprising cooper, William Lambert, whose china shop supplied all of the dishes and cutlery used by the brewery's guests. Besides paying for the rental of Lambert's wares, the firm paid for all breakages and, more interestingly, for the disappearance of a large

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[83]*Stratford Herald*, 26 July 1878.
[84]*Ibid.*, 20 July 1888.

number of eating utensils. The entire affair cost the brewery more than £80;[85] future outings would prove more elaborate.

The annual picnic was intended as a treat for workers, who enjoyed few regularly scheduled holidays during the nineteenth century. Prior to the first brewery outing, most labourers' years were punctuated by only the Mop, a local hiring fair, or unscheduled periods of unemployment.[86] In general, brewery workers enjoyed few holidays, most employers having preferred to brew on holidays to keep men in work.[87] One of the few firms to introduce a week-long, paid holiday in these years was Truman, Hanbury, Buxton & Co.[88] In this sense, annual outings, such as picnics, were an important development, especially for those labourers who worked six or even seven days a week, as was common at the brewery during these years. Clerks and travellers, on the other hand, took regular holidays throughout the 1870s. In fact, as early as 1869, Flowers' travellers were each allotted a ten-day, paid holiday.[89] Most clerks took holidays in late summer when business in general slowed.[90] Few brewery labourers could afford to take any time off work. In 1879, wage ledgers record only two workers who regularly enjoyed a week-long holiday and, as labourers went unpaid during such breaks, usually only coopers or foremen could afford such a luxury.

With the development of rail transport, however, greater opportunities existed for workers to take holidays, especially as the brewery, an important customer of the Great Western Rail Company, arranged for cheaper fares or, alternatively, obtained

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[85]SBTRO, DR 227/112
[86]For a discussion of the functions fulfilled by hiring fairs, see G. Moses, '"Rustic and Rude": Hiring Fairs and their Critics in East Yorkshire *c.*1850-75,' in *Rural History*, VII (1996), pp. 156-7.
[87]*Journal of the Operative Brewers' Guild*, August 1914; and Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 368. Hartley encouraged brewers to give each man a week's holiday in order to create healthier workers.
[88]*Brewers' Journal*, 15 August 1897.
[89]SBTRO, DR 227/106

bulk discounts by chartering entire trains. The first such company-sponsored rail excursion took place on 17 July 1885. Presumably the trip was a success, for another was organised the following year. While the earliest rail journeys only took employees to nearby local sites, such as Aston grounds in Birmingham, later destinations included Liverpool, London and Portsmouth (see Table 13). Other firms organised their own excursions. In July 1896 alone, the editors of the *Brewers' Journal* reported forty brewery outings.[91] By 1900, even the twenty employees of the Stratford-upon-Avon Sanitary Steam Laundry enjoyed a regular day trip to either Warwick or Leamington.[92] Meanwhile, employees of firms based elsewhere regularly came to Stratford on their own excursions.[93]

By 1895, these well-publicised outings, like the brewery's annual picnic, had become regular occurrences. Unlike picnics and other company-centred outings, however, the average rail excursion did not always foster a corporate identity among brewery employees. While labourers occasionally fraternised with non-brewery workers during other social occasions, they were overwhelmed by them during rail excursions. For example, in 1907, when 161 brewery workers travelled to Llandudno, 235 members of the general public, who paid the brewery 5s. 6d. for a day ticket and 13s. for a three-day ticket, also went to the Welsh resort town.[94] Nevertheless, workers were reminded that these trips were organised for their benefit. Besides their free rail tickets, brewery workers received 5s. spending money, while office workers were granted 7s. 6d. Naturally, the sixteen workers who remained in the brewery, as

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[90]*Ibid.*, DR 227/110. This is stated in a letter dated 12 August 1898 from the company's secretary, Charles Lowndes, to Mrs Bursell of Shipston. Lowndes was unable to send her a statement of account as it was 'holiday time' and many clerks were away.
[91]*Brewers' Journal*, 15 July 1896.
[92]*Stratford Herald*, 28 September 1900.
[93]*Ibid.*, 25 July 1890; and *Brewers' Journal*, 15 August 1894.
[94]SBTRO, DR 227/115

well as the two clerks who manned the firm's office during the company holiday, as on other occasions, also received a bonus for remaining in Stratford.[95]

Almost all breweries hosted such events. Moreover, their grand scale usually led rail excursions to attract considerable attention and be described in both newspapers and trade journals. One of the many brewery outings first reported in the *Brewers' Journal* was that organised by the Burton brewers Messrs Salt & Company, whose trains took more than 900 people to Liverpool in 1880.[96] Three months later, the journal reported another rail excursion, this time organised by Messrs Combe and Delafield, soon to become 'London's second brewery'.[97] Interestingly, this trip was organised as three separate outings. On the first day, 200 brewery men were taken to the Welsh Harp, Hendon for their annual beanfeast. The next day, 200 outdoor men, including draymen and maltsters, travelled to Hendon, followed by the firm's clerks and managerial staff on the third day. Besides not encouraging a group identity, such trips reinforced certain divisions which already existed within a brewery workforce.

While destinations and the number of participants on such journeys is easy to determine, very little information documents the activities of workers on their visits to Portsmouth, Blackpool or Scarborough, among other popular excursions. Usually, however, a destination was chosen due to a particular attraction. For example, in 1884, proprietors of both Phipps & Company of Northampton and the Lichfield Brewery took their employees to the International Health Exhibition in South Kensington.[98]

Unfortunately, reports of brewery excursions reveal little more than workers' destinations. A detailed description of the Cheltenham Original Brewery's outing to Cardiff in the *Brewers' Journal* (1881), however, reveals more than the standard

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[95]*Ibid.* Brewery workers were paid 10s. for the day, while office workers received 13s.
[96]*Brewers' Journal*, 15 June 1880.

account.[99] Soon after arriving in the town, employees sat down to breakfast at the Philharmonic Hall. Breakfast was almost always lavish and of a long duration, for, as on this occasion, it was usually followed by a number of speeches and votes of thanks. Thereafter, a group of employees booked a steamer tour to Weston-super-Mare, while another opted for a much shorter crossing to Penarth. Alternatively, land-lovers visited Cardiff castle, while a handful of (presumably less well-off) employees 'strolled through the streets of the important town'.[100]

A less official account of a brewery outing attended by Mary Hewins, who was employed in Flower & Sons' bottling department after the First World War, sheds additional light on this neglected subject. Soon after a trip to Blackpool was announced by the brewery, Hewins's brother, Cyril, provided his sister with a fashionable new outfit in order to insure she would not be 'discracin' us' on her holiday.[101] Dressed in her new orange hat, a grey coat and high heels, Mary, accompanied by a friend and a chaperone, travelled to the sea-side resort where she bought china ornaments at gift shops and 'walked along the Prom', though, surprisingly, she did not see its famed illuminations, funfair or even the sea.[102] The highlight of the trip was the train journey, during which the young women walked through the carriages and spoke with friends and a handful of 'sober' men.[103] Hardly anyone travelling on such occasions did not drink; most consumed an 'unlimited supply

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[97]*Ibid.*, 15 September 1880.
[98]*Brewers' Journal*, 15 August 1884; and 15 September 1884.
[99]*Ibid.*, 15 August 1881.
[100]*Ibid.*
[101]Hewins, *Mary, After the Queen*, p. 20.
[102]*Ibid.*, p. 22.
[103]Hewins, *Mary, After the Queen*, p. 24; and SBTRO DR 730/11

of refreshments'.[104] Consequently, Hewins had few meaningful conversations. The majority of passengers she encountered were 'paralytic'.[105]

While such large outings were often judged as impersonal and therefore did not encourage the formation of a common identity among brewery workers, firms continued to organise more intimate functions, such as annual dinners, which were almost always attended solely by employees. Many of these events were held in local pubs either owned by the brewery or belonging to an important customer. For example, the annual supper in 1879 was held at the One Elm Tavern, near the site of Flowers' original brewery.[106] Eventually, however, the firm constructed a special hall in which the brewery could entertain employees on a regular basis. Only a few months prior to their annual dinner in 1879, Flower & Sons built a club house for their workers costing approximately £2000.[107] Intended for the recreation of employees, the brewery club was also managed by workers. It contained a billiard table, bagatelle board and library, which held local and national papers. There were also several dormitories in which workers could relax during breaks. The half-timbered building on Guild Street in Stratford was leased by Charles Flower to the brewery for 84 years at an annual rate of £2. All employees who paid a small fee were entitled to membership.[108] However, as only twenty workers were permitted to enter it at a time, the club, like the rail excursions already described, fragmented the workforce and heightened existing divisions.[109] Brewery workers during the twentieth century

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[104]*Brewers' Journal*, 15 July 1896.
[105]Hewins, *Mary, After the Queen*, p. 24.
[106]*Stratford Herald*, 10 January 1879.
[107]*Ibid.*, 15 November 1878; and 22 November 1878.
[108]*Ibid.*, 22 November 1878.
[109]See also W. Littmann, 'Designing Obedience,' in *International Labour and Working-Class History* (1998), especially p. 89. The article describes the way in which buildings provided by benevolent employers often became the province of a dominant group within the workforce.

generally regarded it as 'cliquish' and sought entertainment elsewhere.[110] Moreover, in a number of large breweries, workers regularly took their meals in separate mess-rooms, one usually having been supplied for each department.[111]

Despite this eventual development, besides providing a venue for annual dinners, the club house was the site of many interesting social functions. At its inauguration, brewery managers encouraged the proliferation of leisure activities and, just as passionately, discouraged workers from gambling on the new premises.[112] Soon after the club opened, members organised a brewery billiard league. Some workers also engaged in more creative pursuits. In 1887, a handful of theatrically-inclined employees performed the farce 'Family Jars' in the club house.[113] Musical evenings were also regularly staged in the building.[114] At other firms where workers were not provided with equally suitable facilities, such events were regularly staged in malt stores or one of many other spacious buildings.[115]

In later years, sports teams were also formed. Archie Flower, a keen sportsman, organised the brewery's first football team. Nationally, brewery staffs included not only footballers, but many workers skilled in rugby, cricket and especially darts. Given the proprietors' beliefs that healthier labourers worked harder, Birmingham brewers Mitchells & Butlers provided workers with the widest range of recreational facilities, including three cricket pitches, two Association football grounds, eight grass lawn tennis courts and one hard court, five bowling greens and one net-ball

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[110]SBTRO, DR 730/24
[111]Barnard, *The Noted Breweries*, I, p. 100; and II, pp. 47, 237 and 413.
[112]*Stratford Herald*, 22 November 1878.
[113]*Ibid.*, 23 December 1887.
[114]*Ibid.*, 20 November 1896.
[115]Barnard, *The Noted Breweries*, I, pp. 188 and 263.

pitch.[116] Having joined a company body, brewery workers entered local leagues and regularly played alongside regional champions.[117] For example, in 1887, Flower & Sons' football team played Stratford Athletic Club. Combining their theatrical and sporting skills in 1904, the brewery held a comic football match for hospital charity.[118] As had been the case at the brewery during the late nineteenth and early twentieth centuries, the team was led by a thirty-nine-year-old Archibald Flower. Although such activities regularised order and routine and reinforced the firm's own hierarchy, papers also continued to report the 'undisciplined play of football between Flowers' team' and their local rivals, Stratford's railway employees.[119]

Just as managers may have participated in the leisure activities of their employees, workers were often invited to celebrate important events in the lives of their employers. As has been argued elsewhere, worker participation on such occasions was anything but voluntary.[120] For example, employees of Messrs James Pye & Son of Longton, near Preston, were invited to celebrate the coming of age of the proprietor's son in 1886.[121] That of Edward Tyler, eldest son of J. H. Tyler of the Royal Well Brewery, West Malvern, was celebrated by 'a week of gaiety and unflagging festivities'.[122] More solemn occasions marked the death of the senior member of a firm's founding family, as occurred in 1883, when many of Stratford's residents closed their shops and demonstrated their respect for Edward Flower by lining the streets as the brewer's remains were carried through the town to his final resting place.[123] The

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[116][Mitchells & Butlers], *Fifty Years of Brewing*, pp. 101 and 104. The firm also organised swimming and walking clubs.
[117]*Brewers' Journal*, 15 November 1881; and Janes, *The Red Barrel*, p. 183.
[118]*Stratford Herald*, 8 April 1904.
[119]*Ibid.*, 27 March 1891.
[120]Joyce, *Work, Society and Politics*, p. 218.
[121]*Brewers' Journal*, 15 December 1886.
[122]*Ibid.*, 15 May 1894.
[123]*Stratford Herald*, 6 April 1883.

death of Mrs Sedgwick of M. A. Sedgwick, the Watford brewers, was perhaps more memorable only because the brewery's proprietor bequeathed approximately £10,000 to her employees.[124] Other celebrations commemorated the completion of a new production facility, as was the case at Flowers in 1870 and 1874, or the retirement of a director, as occurred in 1888. Some employees, such as those of Messrs Hopcraft in Brackley, Northamptonshire, attended directors' weddings.[125] In 1889, to celebrate the marriage of George Coultas, a partner in the Grantham brewers Redhead & Company, employees, who presented their manager with 'a beautiful clock', were treated to a special dinner.[126] Two years later when Edgar Flower's eldest daughter, Rosalie, married Henry Barran, employees, who had collectively presented the bride with a diamond bracelet, were also treated to a celebration dinner.[127] Some invitations permitted employees to enter the homes of their employers. Frequent gatherings at The Hill, the Flower family residence outside Stratford, presented workers with exclusive insight into the lives, if not simply the gardens, of their paternalistic employers.[128] Various entertainments were also hosted by Charles Flower at Avonbank, the Spanish-style villa the brewer built in 1867 alongside the Avon.[129]

The prosperity which permitted brewers to purchase vast estates and build enormous mansions also enabled many to invest in housing for their workers. Soon after the Flower family moved from the brewery premises in 1855, the brewery house was regularly inhabited by a senior employee or manager with the firm. For much of the late nineteenth century, Stephen Moore inhabited the building; in the 1890s, head

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[124]*Brewers' Journal*, 15 September 1897.
[125]*Ibid.*, 15 October 1881.
[126]*Ibid.*, 15 June 1889.
[127]*Stratford Herald*, 13 February 1891.
[128]The first time workers visited The Hill was in 1881 and was reported in the *Stratford Herald*, 21 July 1881. Over the next three decades many other events were celebrated by the firm at the family's estate. Usually, labourers did not enter the homes of employers, but were entertained in their gardens.

brewer Francis Talbot occupied the dwelling. They were not, however, the only employees provided with accommodation in these years. Those salesmen who managed agencies outside Stratford usually occupied an apartment which adjoined a regional sales office. As the brewery acquired more property during the nineteenth century, more employees, and even some labourers, were offered housing in return for pepper-corn rents. The provision of housing, however, was more than a bonus enjoyed by senior members of staff. It was a simple method many nineteenth-century employers used to stabilise their workforces and prevent the loss of workers and important skills during slack periods.[130] According to Terry Gourvish, the main difficulty which faced Norfolk brewers Steward & Patteson was securing their workers' loyalty.[131] The provision of housing was just one way to secure not only loyalty, but also a certain degree of control over workers;[132] consequently, an increase in home ownership weakened the authority of many paternal employers towards the end of the nineteenth century.[133] Nevertheless, in 1887, more than half of Greene King's workers still lived in cottages owned by the brewery.[134] The same practice existed among some Scottish brewers.[135]

Not all brewers, however, provided workers with lodgings. At most breweries visited by Alfred Barnard in the late nineteenth century, generally only certain 'core' workers, such as managers and foremen were provided with housing.[136] When the editors of the *Brewers' Journal* a few years later informed their readers that maltsters

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[129]*Stratford Herald*, 18 July 1902.
[130]Pollard, *The Genesis of Modern Management*, p. 169.
[131]Gourvish, *Norfolk Beers from English Barley*, pp. 45-6.
[132]See, for example, Joyce, *Work, Society and Politics*, p. 144.
[133]*Ibid.*, p. 122.
[134]Wilson, *Greene King*, p. 81.
[135]*Brewers' Journal*, 15 July 1888.
[136]Barnard, *The Noted Breweries*, I, pp. 41, 46, 64, 141 and 338-9; and III, p. 127. At John Smith's Tadcaster Brewery only five cottages were provided for the maltsters. The only other houses for

in Ireland slept and worked in breweries, it was to encourage a similar practice at English breweries.[137] Conditions, however, did not change. In 1875, Flower & Sons housed only seven of their two hundred brewery workers.[138] By 1882, the number had declined to five.[139] Moreover, the brewery did not attempt to house more workers in the following decades. In fact, the brewery's management does not ever appear to have regarded the provision of housing to workers as an important managerial strategy. This may not be surprising, given the limited training most workers received and the number of agricultural workers who migrated through the district. Furthermore, while the provision of housing may have removed one of the risks associated with the hiring and training of labour, it did not reduce its cost. Consequently, not all employers felt compelled to provide all, or even the most basic, of their workers' needs.

While early acts of paternalism may have been inspired by certain Christian ideals, by the Victorian era, these often appeared to conflict with the now equally-important notions of thrift and industry. Although originally set against an emerging system of political economy, paternalism clearly changed during the nineteenth century. As a result, benevolence, which stressed self-reliance, now appeared the logical outcome of laissez-faire.[140] The best examples of this form of paternalism included company coal, savings and sick clubs.

By 1870, some of Flower & Sons' employees enjoyed the benefits of a sick club which was run and administered by workers. Although the club's first chairman was the manager J. W. Dowson, its committee comprised six workers who were

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employees were those provided to senior members of staff. Similar provisions were made at Hoare & Co. in London, Eldridge, Pope & Co. in Dorchester and the Nottingham Brewery Ltd.

[137]*Brewers' Journal*, 15 March 1893.

[138]SBTRO, DR 227/82

[139]*Ibid.*, DR 227/83

[140]Joyce, *Work, Society and Politics*, p. 138.

elected annually at a general meeting held in January.[141] Every three months two members of the committee were appointed whose job it was to visit the sick once a week and enforce the club's rules. Any member who refused to take office once elected was fined a shilling. Such fines were naturally added to the existing sick fund. Moreover, after a sick club had been established, the brewery's managers found it much easier to fine workers for other offences, as all financial penalties were contributed to the club's account. At other firms, such as Brakspear's in Henley on Thames, where no sick club existed, all fines went to local hospitals.[142]

Any worker could be a member of the sick club as long as he had been with the firm for six consecutive weeks and was at least sixteen years of age. Subscription to the sick club, as at many other firms, cost workers 2d. per week after an initial entrance fee of a shilling had been paid.[143] Even then, however, members were not immediately entitled to benefits. A subscriber had to make three weekly contributions before he could draw on the club's resources. Moreover, payment commenced only after a member missed more than three work days due to illness or injury. During his first six months on the fund, a member was entitled to 6s. a week compensation. For the next half year, members received only 3s. per week. Thereafter, payments ceased entirely. Besides often requiring members to obtain a certificate from a surgeon attesting to their malady, those who drew on the fund were not permitted to leave their homes after five in the evening between 1 September and 31 March or, alternatively, during periods of longer daylight, after nine between 1 April and 31 August; they were

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[141]SBTRO, DR 227/121. All subsequent descriptions of the club's rules and regulations refer to this source unless otherwise stated.

[142]F. Sheppard, *Brakspear's Brewery* (1979), p. 63. Similar practices were common in many other industries, see, for example, Fitzgerald, *British Labour Management and Industrial Welfare*, p. 84.

[143]The one-shilling entrance fee applied to all members under the age of 30. Those between the age of 30 and 40 paid 2s., while members between the ages of 40 and 50 years paid 2s. 6d.

fined 2s. 6d. for doing so.[144] Committee members who failed to visit sick workers at least once a week were also fined. Those who refused to sit on the committee after already having served a term, however, were not.

While the existence of a complex set of rules, and their corresponding fines, seemed to guarantee a healthy balance, the sick fund rarely amounted to more than a junior clerk's salary. In 1868, shortly after the sick club was founded, its committee had collected £17 5s. from subscribers.[145] By 1870, the fund contained £40. At the end of the decade it surpassed £80, but, thereafter, rapidly declined until it totalled less than £30, despite the limited number of ailments reported by members. In general, only one or two workers appear to have benefited from the fund during each quarter, and the average absence lasted approximately two weeks. Rather than having been drained by members, the fund remained in a poor state during its earliest years due to the seasonal nature of brewery employment in Stratford. Few workers appear to have joined the club before the twentieth century when employment at the brewery generally became full-time and, consequently, earnings more stable.

Nevertheless, there had always been a need for a brewery sick club. The brewing trade was recognised as hazardous and its dangers were regularly discussed by Edward and Charles Flower's contemporaries. In his *Effects of Arts, Trades and Professions on Health and Longevity* (1832), Charles Turner Thackrah commented on the humid, unhealthy environment of breweries. Moreover, brewers' vulnerable physical conditions were exacerbated by the consumption of 'great quantities of porter

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[144]Evidence from other industries suggests the implementation of such rules and penalties was common, see, Fitzgerald, *British Labour Management and Industrial Welfare*, pp. 86 and 88.
[145]SBTRO, DR 227/8

and ale'.[146] Few social investigators, however, took notice of breweries, due to the absence of women and children from their workforces. Consequently, early factory legislation rarely affected brewers as few employed young children;[147] even fewer investigators of occupational health after Thackrah investigated the trade.[148] Managing brewers, on the other hand, began to recognise the hazards of their trade as soon as insurance companies began to classify breweries among 'Hazardous Businesses' and increased their premiums.[149]

Members of the trade took much longer to address the risks of brewing collectively. One of the first to do so was Burton chemist Frank E. Lott, who, in 1905, presented a paper before the midland section of the Institute of Brewing in which he attempted to list the main hazards associated with the trade.[150] During his presentation, Lott suggested accidents had seven general causes, which he described as those resulting from structural defects, explosions, suffocation or gassing, scalding and burning, drowning, electric shock and other 'incidental causes', which included runaway casks and kicking horses. Though helpful to historians of industry, even Lott's comprehensive list failed to address every hazard brewery workers faced. Moreover, it did not demonstrate the way in which these hazards had changed over time.

Many of the accidents identified by Lott appear in Flower & Sons' ledgers. The most gruesome reappeared in sensational newspaper reports. Nevertheless, between

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[146]C. T. Thackrah, *The Effects of Arts, Trades and Professions on Health and Longevity* (1832), pp. 127-8; and H. Schlüter, *The Brewing Industry and the Brewery Workers' Movement in America* (1910), p. 256.
[147]*Brewers' Journal*, 15 January 1892.
[148]See, for example, T. Oliver, *Dangerous Trades* (1902) and *The Health of the Workers* (1925).
[149]F. E. Lott, 'Accidents in Breweries,' in *JIB*, (1905), p. 28. Due to what were regarded as unfair insurance rates, English brewery owners had formed the Brewers' and General Fire Insurance and Guarantee Corporation Ltd in 1892, see *Brewers' Journal*, 15 October 1892.
[150]Lott, 'Accidents in Breweries,' in *JIB*, p. 28.

1870 and 1914 only one labourer was ever killed at the brewery, when he fell nine feet from a platform on to a concrete floor.[151] An inquest into the death of Harry Field, a fourteen-year-old bottle washer, suggests it could have been prevented had a guard rail existed along the stage from which he tumbled.[152] Despite the odd lurid incident, accidents at the brewery were no different from those sustained by labourers at other work sites where raw materials came packaged in heavy wooden casks and coarse sacks. For example, at Kendall & Son, the brewers' chemists, as at the brewery, most injured workers usually suffered from cuts and bruises when fingers or toes came between casks.[153] Occasionally, a labourer 'lost [a] finger joint' or 'strained [his] back' while unloading sugar or barley.[154] At both sites workers faced the additional hazards of steam-powered machinery and harmful chemicals. A comparison of this sort is even more interesting should one recognise that Kendall & Son not only occupied a portion of the original brewery in 1910, but also brewed non-alcoholic beer during this period.

Few accidents at the brewery appear to have been related to structural defects between 1870 and 1914. Primarily this was due to the recent construction of the production facilities. From 1870, most labourers at Flower & Sons worked at a very modern site. The brewing process, however, had changed very little. Much of the work in the brewery was still manual and was conducted in a humid, and, at other times, dusty environment. Most men commencing work at the brewery were therefore asked if they regarded themselves as 'fit'.[155] In general, many appear to have overestimated their levels of physical fitness, for not all recruits remained with the brewery for an

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[151]*Stratford Herald*, 24 June 1892.
[152]*Ibid.*, 1 July 1892. Given that Field was carrying a crate containing six dozen bottles at approximately six in the evening, having started work at six that morning, suggests fatigue may have played a part in the accident. More interestingly, despite his age and having recently joined the Band of Hope, Field had consumed a quart of ale at four that very afternoon.
[153]SBTRO, DR 315/1/15
[154]*Ibid.*

entire season. Wage ledgers from as early as 1869 list several workers who were let go by the brewery prematurely because they were 'not strong enough'.[156] A new recruit's strength was easily tested in the malt house, where he was required to carry loads in excess of sixteen stone.[157] The malt house itself was a demanding environment. The dust-filled air made breathing difficult and the heat of the kilns left workers as weak as the work did. Even those who initially passed these tests did not always become permanent members of staff. Each year, a few determined men were encouraged to leave the brewery's service on doctors' orders.[158]

Brewery work tended to be hot and, unlike malting, humid. Boiling coppers filled sections of the brewery with steam before the introduction of ventilation equipment and closed vessels in the last decades of the nineteenth century. Even then, those working closest to the copper or cleaning casks still risked being scalded with boiling wort or steam. Occasionally, trade journals reported the deaths of individuals who fell into uncovered brewing vessels.[159] Rarely, however, were these burn victims employed at commercial breweries. Most cases involved labourers who were engaged to brew by innkeepers in ill-fitted, outdated and poorly-maintained facilities. More commonly, the most severe accidents at the large provincial breweries involved machinery with unprotected moving parts or even, after 1880, electricity. Trade journals reported many cases of workers who were pulled into engines and machine mechanisms; as a direct result of such accidents many managers abolished 'the

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[155]SBTRO, DR 730/24
[156]*Ibid.*, DR 227/82
[157]Evans, *Where Beards Wag All*, p. 243.
[158]SBTRO, DR 227/83. In 1883, one of the men 'gave up malting by order of [his] Doctor', while another, Joshua Hodgkins, 'gave up', because his 'chest wouldn't stand kilnwork'.
[159]The *Brewers' Journal* reported several of these cases. For example, on 15 March 1881, they wrote of a man named Hughs, employed at the Brewers' Arms Inn in Worcester, who died after falling into a vat of boiling water. Similar deaths were reported on 15 November 1882; 15 May 1883; and 15 June 1885; in Eley, *Portsmouth Breweries since 1847*, p. 6; and the *Times*, 8 July 1886.

dangerous brewer's gown'.[160] Although the increasing number of overhead electricity wires also caused some anxiety in the trade, better lighting improved visibility and safety in general. Moreover, in Flowers' case, electricity allowed the brewers to replace more than 3000 feet of ropes, belts and shafting which had previously powered various brewing operations.[161]

Usually a worker's chances of sustaining injuries were highest when a particular technology was still relatively new and the individual was unfamiliar with its operation. Consequently, many more labourers were injured during their first years working, for example, on a bottling line. Given the age of most bottlers, however, the average brewer generally remained 'more or less nervous for the safety of his bottle-washing boys'.[162] By 1904, the Home Office's Dangerous Trades Committee had designated bottling as hazardous, particularly due to the danger of bottles bursting when under pressure.[163] Despite these dangers, many brewers also recognised that familiarity with equipment was equally dangerous.[164] In any case, workers' ale allowances certainly did not improve safety in breweries throughout this period, nor did their excessive hours.

Historians of occupational health almost always recognise the connection between sickness or injury and hours of work. Surprisingly, so did many early social investigators; it was an investigation of more than 260 occupations which finally led Charles Thackrah to support the aims of the Ten-Hour Movement.[165] Nevertheless, several decades after his endorsement, many brewery labourers continued to work

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[160]Lott, 'Accidents in Breweries,' in *JIB*, p. 32.
[161]*Brewers' Journal*, 15 November 1903.
[162]Lott, 'Accidents in Breweries,' in *JIB*, p. 45.
[163]*Brewers' Journal*, 15 March 1904.
[164]Lott, 'Accidents in Breweries,' in *JIB*, p. 50. This is argued by W. R. Wilson, Chairman of the midland section of the Institute of Brewing during the discussion which followed Lott's paper.
[165]M. Quinlan, 'The Toll from Toil Does Matter,' in *Labour History* (1997), p. 5.

more than sixty hours a week, for brewing times were still often determined by weather conditions and the natural cooling rate of wort. As a result, it was the introduction of better refrigeration technology in the late nineteenth century which finally reduced workers' hours, fatigue and, consequently, accidents. However, as has been suggested in Chapter Two, such technological improvements were introduced to the trade haphazardly. As a result, the hours and safety of brewery workers naturally varied depending on individual circumstances.[166]

Usually overshadowed by the dangers of production, the distribution of ale was associated with its own hazards. Throughout this period, brewers relied on the horse and dray to deliver their product locally. Although often as reliable as successive modes of transport, horses can be very unpredictable. Though horses which were recognised as 'kickers' were quickly returned to their vendors, throughout the history of the brewery, labourers continued to suffer serious injuries when horses bolted during the loading and unloading of drays.[167] While the predictability of steam motors reduced the number of accidents among delivery men, their introduction only made roads more dangerous for all other travellers. Rail travel also increased the dangers associated with the trade, especially when trains entered brewery yards, as they did at Stratford. Although the brewery rarely relied on canal transport after 1860, drownings continued as long as wells in brewery yards remained uncovered and unprotected.[168] Meanwhile, those bodies occasionally fished from a canal or river in the late nineteenth century were most often office workers.[169] Such drownings, however, appear to have been less accidental and usually accompanied a recent charge of embezzlement.

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[166]Riley, 'Brewery Labour Problems,' in *JIB*, pp. 154-9.
[167]*Stratford Herald*, 3 November 1899; and 28 August 1908.
[168]*Stratford Herald*, 7 June 1912; and *Brewers' Journal*, 15 July 1897; and 15 May 1907.
[169]*Stratford Herald*, 28 April 1905.

More often, a generous supply of water on site proved more of a benefit to a brewery staff, particularly when faced with an outbreak of fire. Besides interfering with respiration, the dust which often saturated the air in malt houses was a great fire hazard. Consequently, breweries and corn mills posed many risks to workers, as well as insurance companies.[170] The dangers associated with such establishments led a number of breweries to organise their own fire brigades, some of which performed as well as, if not better than, local services.[171] Flower & Sons suffered two fires in 1899 alone and another in 1906.[172] The *Brewers' Journal* between 1870 and 1914 contains dozens of reports which attest to the danger of malt dust.[173] Almost every issue published in the last two decades of the nineteenth century reported 'one or more outbreaks of fire in breweries and maltings'.[174] A stone passing unnoticed through the malt rolls frequently caused the spark required to ignite the maltings' dust-laden air. Better screens went some way towards reducing the number of fires, but not the need for brewery fire brigades.

By the end of the nineteenth century, journals suggest that many more fires resulted from machine explosions, especially steam-powered engines and refrigerators.[175] A hot-liquor tank explosion at Flower & Sons in 1895 caused considerable damage to surrounding machinery, but none to workers given that the accident occurred early in the morning.[176] Damaged refrigerators were not only fire hazards, but their breakdown could expose workers to toxic gases, such as ammonia.

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[170]*Brewers' Journal*, 15 January 1890.
[171]*Ibid.*, 15 July 1896. Mitchells & Butlers's fire brigade, among those of other firms, won numerous prizes at the Grand International Fire Brigades Tournament and Exhibition in these years.
[172]*Stratford Herald*, 17 March 1899; 8 December 1899; and 28 September 1906.
[173]*Brewers' Journal*, 15 November 1883 (at Bass's old brewery); 15 February 1890 (at Messrs Gough & Son, Bures); 15 October 1890 (at Messrs Tomkins, Courage and Crackwell); and 15 March 1891 (at Barclay, Perkins & Co., Southwark).
[174]*Ibid.*, 15 May 1891.
[175]*Brewers' Journal*, 15 September 1884; 15 September 1888; 15 January 1889; and 15 July 1891.

On the other hand, ice produced by such technology had medical applications. As a result, it appears the introduction of refrigeration technology generally benefited the health of workers. For example, Flower & Sons supplied all 'partners, some of the staff, and any invalid with ice *gratis* if ordered by a medical man'.[177] Moreover, these medical men were often the chemists employed at large breweries. In his paper presented to the midland section of the Institute of Brewing, Frank Lott claimed 'it was quite the usual thing when [he] was engaged in a Burton brewery for an injured man to be brought to the laboratory'.[178] As brewery chemists were looked upon more or less as doctors, he recommended they 'obtain some little knowledge of surgical matters by attending a St. John's Ambulance class'.[179] In most large breweries, foremen attended similar classes.[180] Some firms were even more prepared to deal with emergencies. At Warwick & Sons in Newark, Alfred Barnard was shown a glass cupboard 'containing bundles of surgical bandages and appliances, oils, and other requisites for scalds and burns'.[181] However, according to members of the trade, 'it [was] rare indeed to find even the simplest appliance for first aid in the smaller establishments of almost every country town'.[182]

Medical care at breweries, however, was not restricted to that provided by chemists and sick clubs. Although most clubs were established along lines which encouraged self-help, occasionally this system combined with older notions of charity. For example, in the 1890s, after a labourer, George Hodgkins, was injured in the brewery, Flower & Sons' directors assumed responsibility for the employee who had

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[176]*Stratford Herald*, 6 December 1895; and *Brewers' Journal*, 15 December 1895.
[177]Talbot, 'Fifty Years' Experience of the Quality of Beer,' in *JIB*, p. 400.
[178]Lott, 'Accidents in Breweries,' in *JIB*, p. 52.
[179]*Ibid.*, p. 46.
[180]*Brewers' Journal*, 15 March 1905.
[181]Barnard, *The Noted Breweries*, I, p. 372.
[182]*Brewers' Journal*, 15 March 1905.

been with the company for a number of years. Although Hodgkins subscribed to the brewery's sick club, they resolved to raise his weekly payment to 10s. and continue payments when he was no longer entitled to money from the sick fund.[183] Other workers also received bonuses or, if they were one of the six or seven labourers who lived in a brewery cottage, had their rents waived during the period they were unable to work. Moreover, Flower & Sons' owners themselves subscribed to several local hospitals. As one of the Birmingham and Midland Eye Hospital's two-guinea subscribers, the brewery could send two in-patients and eight out-patients for treatment at the institution yearly.[184] The brewery also subscribed to several cottage hospitals, such as that in Evesham, among others located throughout their sales districts.[185]

Rather than subscribe to hospitals themselves, many brewers made substantial contributions to worker-run sick clubs. For example, upon resigning his chairmanship of Allsopp & Sons' board, Lord Hindlip donated the whole of his company shares, valued at £10,000, to the brewery's sick fund.[186] The sick club run by workers of Simonds's Reading brewery, on the other hand, was funded entirely by the firm.[187] Medical attendance was also provided free of charge to all Guinness employees.[188] Although paying less for health care than their largest competitors, Flower & Sons regularly contributed £10 to the sick fund in the late nineteenth century, and a more substantial sum in 1896 after money belonging to the fund was stolen from the firm's

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[183]SBTRO, DR 227/103
[184]*Ibid.*, DR 227/10
[185]*Ibid.*
[186]*Brewers' Journal*, 15 November 1890.
[187]Pudney, *A Draught of Contentment*, p. 116. Sick employees received two days' pay a week.
[188]Lynch and Vaisey, *Guinness's Brewery in the Irish Economy*, p. 238.

safe.[189] As a result, brewery workers had access to health care and, more importantly, compensation prior to 1906.

To some extent, brewery owners also felt obliged to support their most senior employees. Long-serving workers, who managed to survive the trade's numerous hazards, were often rewarded with pensions. The goal of many paternalists after all was to create a stable work environment. According to Richard Wilson, in addition to faces they knew and recognised, Greene King's managers wanted men whom they 'could help in old age'.[190] In the last decades of the nineteenth century, many brewers willingly provided for their oldest employees. For example, Ford & Son, brewers of Tiverton and Plymouth, placed property with an annual income of £67 in the hands of trustees whose job was to provide for retired employees.[191] Few, however, were manual labourers. As at Ford & Son, the first employees at Flower & Sons to receive pensions were its clerks.[192] In 1886, William George Bickley was granted a pension of £52 a year, to be paid quarterly for as long as he lived or until he resumed work.[193] The first labourer to retire with a pension was George Wilson, who quit the cooperage in 1888. Two years later, the first ordinary brewery labourer was retired with a pension after having served the Flowers for twenty-one years.[194] Others followed. In July 1894, a column listing pensioners first appeared in the firm's wage books. Three years later it contained the names of five other workers, each receiving between 2s. 6d. and 15s. a

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[189]SBTRO, DR 227/10; and *Stratford Herald*, 27 December 1895.
[190]Wilson, *Greene King*, p. 80.
[191]*Brewers' Journal*, 15 February 1890; and Barnard, *The Noted Breweries*, IV, pp. 317-8.
[192]The same pattern is noticeable in various industries during these years, see, for example, L. Hannah, *Inventing retirement* (1986), pp. 10-2; A. Raistrick, *Two Centuries of Industrial Welfare* (1977), p. 51; Gospel, *Markets, firms, and the management of labour*, pp. 74-5; and R. Floud, *The People and the British Economy, 1830-1914* (1997), p. 144.
[193]SBTRO, DR 227/99
[194]SBTRO, DR 227/83

week depending on their lengths of service.[195] Generally, any employee who served at least twenty years was entitled to a pension. Exceptions, however, existed. W. G. F. Bolton, a Birmingham agent, was one of several. In 1880, after he was released because of his poor sales record, the brewery informed Bolton that he was not entitled to a pension, as he had not been with the firm long enough. However, 'due to the time they [had] known him', Bolton was granted a pension of £50 a year.[196] Although pensions were to cease at death, certain provisions were also made for the widows of employees. For example, in 1893, the firm's board granted £100 to Mrs G. L. Carter, who survived her husband, E. M. Carter, formerly a clerk at the brewery, 'to enable her to establish a Tobacconist shop in a suitable neighbourhood in Birmingham'.[197] Similar financial support was granted to the widows and families of workers who died while serving in the Boer War.[198] No doubt, this provision was largely inspired by the death of Richard Flower.

Pensions, like medical provisions and company housing, whether motivated by genuine feelings of charity or notions of thrift and industry, were prosperity gifts and therefore not compulsory as they were, for example, in Germany at this time.[199] As such, their existence was threatened with each decline in trade. Interestingly, while fluctuations in trade may have spelled the end of several, more spontaneous bonuses, many others endured over the years. Brewers were aware that workers came to expect the most regular of gifts and bonuses, such as ale allowances and Christmas meat.

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[195]*Ibid.*, DR 227/84
[196]*Ibid.*, DR 227/106
[197]*Ibid.*, DR 227/110
[198]*Ibid.*, DR 227/84. Each worker who served during the war was paid 7s. weekly. Wives of employees killed during the conflict received 5s. a week and an extra shilling for each child. Five women were paid by the brewery during the conflict. Mitchells & Butlers, on the other hand, donated 1000 barrels of stout to troops stationed in South Africa. The money earned from the sale of empty casks was allotted to the Soldiers' and Sailors' Families' Association, see *Brewers' Journal*, 15 May 1901.

Unlike the cash bonus which Flower & Sons' managers presented to workers who reported faulty equipment, other gratuities could not easily be changed 'without giving offence'.[200] Instead of disappearing altogether, these practices were controlled more carefully. While there is some evidence that this commenced in the early 1890s, most benefits were regularised at the turn of the century, years in which the firm endured its most difficult financial crisis.[201]

The first attempt to regulate pensions at the brewery appears to have occurred in 1900 when the widow of a clerk, George Bland, requested the brewery for support after her husband's death. Faced with Mrs Bland's plea and declining sales in London, the directors were forced to limit their charity. Although it sympathised with the widow, whose husband lost most of his savings in a failed business venture, the board considered it beyond their ability to grant her a pension. To have done so would have set 'a precedent, and would have [had] far reaching effects'.[202] After this episode, the brewery managers, still in favour of pensions, expressed an interest in drafting a scheme whereby an employee to some extent contributed to their own pension fund, and each understood the sum to which they were entitled.[203] Other brewers even contemplated the distribution of profit-sharing earnings to workers on retirement as an alternative to pensions.[204] In these same years at Mitchells & Butlers, however, financial strength allowed directors to start their own superannuation fund, which would remain 'a free gift from the firm in recognition of loyal service' well into the

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[199]R. Martin and R. H. Fryer, *Redundancy and Paternalist Capitalism* (1973), pp. 84-5; N. McKendrick, 'Josiah Wedgwood and Factory Discipline,' in *The Historical Journal*, IV (1961), p. 85.
[200]SBTRO, DR 227/115
[201]See Chapter One, pp. 47-57. In many respects, the continuation of benefits during this period very likely obscured the brewery's financial difficulties from the general public.
[202]SBTRO, DR 227/110. The letter was written by company secretary Charles Lowndes.
[203]Riley, 'Brewery Labour Problems,' in *JIB*, p. 151.
[204]*Brewers' Journal*, 15 September 1912.

twentieth century;[205] A similar scheme had been established at Allsopp & Sons in 1895.[206]

In some ways, one may have expected the paternalist policies of Flower & Sons to have disappeared entirely by this time or soon after the brewery's incorporation in 1888. For example, Patrick Joyce argues that limited liability broke the back of paternalism among Lancashire's cotton magnates.[207] Robert Fitzgerald argues similar changes spelled the end of a paternal tradition at various firms in other industries.[208] Moreover, these changes drastically altered labour relations in general. As a result of incorporation, 'the human touch between master and man was being lost'.[209] Compared with the family firm, the joint stock corporation was judged by workers as 'too impersonal a body upon which to rivet allegiance'.[210] Consequently, less-subtle managerial techniques were to ensure obedience from brewery workers.

Occasionally, this appears to have been the case in the brewing industry. Some brewery owners and managers, for example, do not appear to have taken a great interest in their workers after limited liability, many having been conspicuously absent from the factory floor as well as annual dinners and outings. Often, however, their attendance had been poor in the years preceding incorporation. Such was the case at events organised by Warwick brewers Dutton & Company, whose managers rarely

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[205][Mitchells & Butlers], *Fifty Years of Brewing*, p. 112. In 1908, the firm had also erected a pair of cottages in which two retired employees could live free of charge, see *Brewers' Journal*, 15 September 1908. Less than a year later, the firm laid the foundation stone of the William Butler Memorial Home for aged tenants and employees, see *Brewers' Journal*, 15 February 1909.

[206]*Brewers' Journal*, 15 January 1895. The cost of these schemes at a number of larger breweries tended to escalate in the late nineteenth century, as many more men were pensioned after each brewery amalgamation.

[207]Joyce, *Work, Society and Politics*, p. 339.

[208]R. Fitzgerald, 'Labour Strategies, Industrial Welfare, and the response to new unionism at Bryant and May, 1888-1930,' in *Business History*, XXXI (1989), p. 50; and his *British Labour Management*, p. 153.

[209]Page, *Commerce and Industry*, p. 419.

[210]R. Datallier, 'The Individual Employer *versus* The Joint Stock Corporation,' in C. S. Myers (ed), *The Worker's Point of View* (1933), p. 155.

attended the firm's functions.[211] More often, limited liability, though affecting the organisation of a business, did not seriously alter managerial practices.

Like other firms, many breweries went public only in the legal sense.[212] Ten years after their first share issue, Flower & Sons was 'practically a private concern'.[213] In 1904, ordinary shares were still 'held almost entirely by members of the Flower family'.[214] Despite demands from the investing public that all breweries reveal their balance sheets,[215] in 1909, when Thomas Mason Daffern, a solicitor, stock broker and founder of the Coventry Permanent Economic Building Society, requested the brewery for balance sheets which he could show his clients, he was informed that the firm was 'a private one' and, as such, 'it [did] not publish its balance sheet'.[216]

Other brewing families retained control in a similar manner. When Ind Coope & Company, the Romford brewers, went public in 1886, there was no public issue of shares, all having been taken up by the existing partners.[217] Bass's shares were also retained by family and friends, as were those of William Butler's Crown Brewery in Birmingham.[218] The owners of numerous smaller provincial breweries pursued similar strategies.[219] Perhaps recognising his workers' concerns, Pickering Phipps, chairman of the Northampton brewery of that name, explained his decision to incorporate the firm. Phipps, who did not want 'to get rid of [his] interest in [the brewery]', claimed limited

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[211] *Brewers' Journal*, 15 February 1880.
[212] Gourvish and Wilson, *The British Brewing Industry*, p. 306; and Pollard, 'Entrepreneurship,' in Floud and McCloskey (eds), *The Economic History of Britain Since 1700*, p. 70.
[213] SBTRO, DR 227/110
[214] *Ibid.*
[215] *Brewers' Journal*, 15 February 1905; and *Financial News*, 3 February 1905.
[216] CCRO, 606/12
[217] *Brewers' Journal*, 15 November 1886.
[218] *Ibid.*, 15 January 1888; and 15 February 1895.
[219] G. Channon, 'Georges and Brewing in Bristol,' in *Studies in the Business History of Bristol* (1988), p. 170; Gourvish, *Norfolk Beers from English Barley*, p. 121; and Mathias, 'Brewing archives,' in Richmond and Turton (eds), *The Brewing Industry*, p. 26.

liability made the business more stable in case of his death.[220] The brewer dispelled any lingering doubts two years later when he announced his son would succeed him as brewery chairman.[221] Though Charles Flower may have wished the same, his labourers were certain that generations of Flowers would continue to brew in Stratford.

Like so many nineteenth-century brewers, Flower & Sons were recognised as benevolent employers. From the moment Charles and Edgar Flower opened their new plant in 1870, and perhaps even years earlier, workers were regularly treated to dinners, annual outings and various other bonuses, both in cash and kind. Inevitably, this tradition also evolved over the remainder of the century. For example, financial success in the following decade allowed the firm's founders to provide prosperity gifts to workers, bestow various benefactions on the community in which their business had prospered and contribute to numerous local charities. Such philanthropic gestures also contracted, but not always due to limited liability. As the nineteenth century drew to a close, Flower & Sons supported many more causes designed to encourage self-help. More importantly, while increased profits encouraged benevolent paternalism, a decline in business often made for less-generous brewers. Rather than signal the end of Flower & Sons' benevolence, however, the financial crisis at the turn of the last century only led the brewery's directors to regulate all bonuses more carefully. As a result, written rules and guaranteed benefits largely replaced the pliable paternalist tradition, associated with spontaneous grants and hand outs. Consequently, the brewery's chosen method of labour management lost much of its flexibility, and, unlike the business climate at the end of the nineteenth century, became far more predictable.

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[220] *Brewers' Journal*, 15 December 1882.
[221] *Ibid.*, 15 December 1884.

Whether paternalism was at all a successful managerial tool in an age before fixed benefits, however, is the subject of this study's final chapter.

Chapter Six: The Limits of Paternalism

The success of paternalism as an early management strategy is characterised by a lack of industrial conflict. Consequently, the Victorian period, and the second half of the nineteenth century especially, stands out in many historical studies due to the near absence of conflict between masters and men.[1] Often regarded as 'an antidote to the unions', paternalism limited anti-employer feelings and prevented strikes and other forms of organised industrial unrest.[2]

Labour relations in the brewing trade, among other industries, also benefited from the efforts of paternal employers. Published reports of workers' dinners held annually throughout the late-nineteenth century regularly refer to the cordial relations which existed between brewery employers and their employees. Cases of workers retiring after forty or fifty years suggest this particular strategy also reduced labour turnover. In recent years, however, such static descriptions of workforces have become more suspect. Contemporary sociological and business management texts, for example, acknowledge that it almost always appears that problems of spirit, morale or organisation and communication rarely affect the proprietors of small businesses, which the majority of breweries were.[3] Rather than measure labour discontent by the number of strikes which interrupted production, one must devise methods to measure more covert signs of worker dissatisfaction, such as theft, vandalism and absenteeism.

Moreover, simply because an employer demonstrates what can be described as

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[1]J. Child, *British Management Thought* (1969), p. 33; Morris and Smyth, 'Paternalism as an Employer Strategy,' in *Employer Strategy and the Labour Market*, p. 219; Donnachie, *A History in the Brewing Industry in Scotland*, p. 94; and Ackers, 'On Paternalism,' in *Historical Studies in Industrial Relations*, p. 174.
[2]Joyce, *Work, Society and Politics*, p. 149.

paternalistic traits does not mean his actions successfully inspired loyalty among workers. Inevitably, some employers were better than others when it came to retaining the services of their labour force. At other times, a company's welfare programme was simply not strong enough to counter alternative influences exerted by a region's labour market. Historically, however, the success of paternalism appears to depend on a combination of external and internal factors, though primarily on a firm's location and the willingness of employees to submit to their employers. Consequently, despite some employers' best efforts and intentions, workforces often remained unstable.

Not unlike the reports published by their competitors, accounts of dinners and celebrations hosted by Flower & Sons regularly draw attention to the good feelings which characterised relations between employers and employees at Stratford's largest firm. For example, in 1874, the Mayor, William Stevenson, while addressing dinner guests gathered at the brewery to celebrate the extension of the company's new premises, suggested the gathering formed 'a really pleasing contrast to the dissensions which elsewhere agitated the relations between employers and employed'.[4] A similar speech was made by Edward Flower when the brewery along the Birmingham Road was first opened four years earlier. Flower recalled days 'when strikes were unknown, liberty was rightly understood, and not libelled by itinerant demagogues'.[5] Oral testimony collected for the period suggests that strikes were indeed rare occurrences in Stratford.[6]

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[3]P. Thompson and S. Ackroyd, 'All Quiet on the Workplace Front?' in *Sociology*, XXIX (1995), p. 629; and Drucker, *The Practice of Management*, p. 275.
[4]*Morning Advertiser*, 8 May 1874; SBTRO, DR 227/121. Similar feelings were expressed by those dignitaries who attended a workmen's supper at Cox & Son's timber yard three months later, see *Stratford Herald*, 7 August 1874.
[5]SBTRO, DR 227/121
[6]Hewins, *The Dillen*, p. 8.

The same cordial relations appear to have existed between most brewery employees and their paternal employers. Mitchells & Butlers was one of many midland breweries able to claim a strike-free past until well into the twentieth century.[7] Like Flowers, Mitchells & Butlers and the majority of their other midland rivals, the proprietors of Messrs T. Manning & Company of Northampton also drew attention to the good relations which existed between themselves and their workforce.[8] Not surprisingly, when reflecting on labour relations in breweries before members of the midland branch of the Institute of Brewing at the turn of the last century, W. Stanley-Smith suggested 'the history of the brewing trade exhibits but few disturbances between master and man'.[9] Not only were Smith's claims not contested by his audience, but a considerable amount of contemporary evidence supports his general argument.

Besides firms' annual dinners, as described in company-issued reports, the long service of brewery employees also seems to attest to the ability of paternalists to stabilise their workforces. The average company history stresses the number of years workers served and regularly refers to members of staff who 'have grown grey in the service of the firm'.[10] Five per cent of the labourers employed at H. & G. Simonds in Reading between 1870 and 1914, for example, had been with the firm for thirty years or more.[11] In one of the most complete histories of a brewery, Richard Wilson claims many employees worked all their lives at Greene King.[12] In this respect, it appears that

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[7][Mitchells & Butlers], *Fifty Years of Brewing*, p. 112.
[8]*Brewers' Journal*, 15 January 1889.
[9]Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 126.
[10]Barnard, *The Noted Breweries*, I, p. 327; and IV, p. 255; see also Gourvish, *Norfolk Beer from English Barley*, pp. 52 and 129; Mathias, *The Brewing Industry in England*, p. 32; and Janes, *The Red Barrel*, pp. 171-2.
[11]CA, BA/S/12
[12]Wilson, *Greene King*, p. 80.

the owner achieved his desire to employ faces he knew and could 'help in old age'.[13] By offering workers continuous employment and pursuing a benevolent managerial strategy, the brewery's owner-manager appears to have been served by a loyal and disciplined staff.

Evidence from wage and salary ledgers also suggests that a certain number of Flower & Sons' employees remained with the firm for several years, even decades. Eight of the labourers recorded in the firm's wage book in 1890 had been with the brewery for more than thirty years.[14] A number of the firm's longest-serving salaried workers, like Eddie Booker, received gold watches after forty years of service, while many more twenty-five-year employees were presented with silver timepieces.[15] Moreover, several workers remained with the brewery well into their final years. For example, Sarah Flower's diary records the death of Mr Sims, who had been at the brewery for twenty-five years.[16] Numerous other employees worked until a decline in their physical conditions prevented them from carrying out their duties any longer. As a case in point, the Warwick traveller William Radford was given notice by the firm only after his deafness became 'an absolute bar' to his continuing in his post.[17] Many manual workers also remained with the brewery until no longer physically able to help with production; most were retained and simply made to perform easier tasks, such as repairing sacks and their colleagues' work clothes. The limited number of employees that were actually pensioned between 1870 and 1914 suggests many more labourers than clerks worked all their lives at the brewery.[18]

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[13]Wilson, *Greene King*, p. 80; and see Chapter Five, p. 252.
[14]SBTRO, DR 227/83
[15]*Ibid.*, DR 730/15. Booker was with the firm for fifty-two years.
[16]Flower, *Great Aunt Sarah's Diary*, p. 63.
[17]SBTRO, DR 527/110
[18]See Chapter Five, p. 252. During these years, less than a dozen labourers were actually granted pensions by the firm.

While such evidence implies that breweries were extremely stable environments, it also contrasts with census data already presented, which indicates that only a few workers' sons followed their fathers into the trade.[19] Not surprisingly, other less well-circulated contemporary sources reveal that a certain degree of conflict occasionally punctuated relations at breweries. Although apparently rare occurrences in Stratford during the nineteenth century, strikes did occasionally disturb production in breweries, primarily those located in London and Burton. Moreover, most forms of co-ordinated industrial action usually originated among coopers, the industry's most highly organised tradesmen.

Not surprisingly, members of brewery cooperages generally struck in order to protect rates of pay; coopers' generous earnings essentially depended on a tradition of piece work. For example, in 1883, London coopers put down their tools when employers refused to recognise revised union price lists.[20] Almost a decade later, the city's coopers again struck in order to enforce higher rates, only, on this occasion, instead of importing German craftsmen, who were used previously to break strikes, a number of brewers attempted to replace their men with the latest cask-making machinery.[21] Burton coopers appear to have more successfully convinced their employers to accept their society's price lists than had their associates in the capital. Nevertheless, strike action had also been necessary in 1890 before the proprietors of the town's two dozen breweries actually conceded to workers' demands.[22] Such tactics had also been resorted to previously by coopers employed by Messrs Truman,

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[19]See Chapter Three, pp. 117-8.
[20]Gilding, *The Journeymen Coopers of East London*, p. 62.
[21]*Ibid.*, p. 63.
[22]*Brewers' Journal*, 15 December 1890.

Hanbury, Buxton & Company in order to demarcate the craftsmen's duties from those of ordinary brewery labourers.[23]

Perhaps due to the example set by their well-organised co-workers, or even that of liberal employers like M. T. Bass, who encouraged organisation among railway workers, Burton's maltsters were also known to strike in order to regulate pay and working conditions.[24] During a well-publicised event staged on 16 November 1889, maltsters employed at various breweries in the town refused to work unless granted an additional 8d. a day.[25] Although managers considered their men to have broken the contracts which many had signed at the beginning of the malting season, the proprietors generally followed the lead of Bass & Co., the town's largest employer, and agreed to an increase. A similar petition was honoured by Barclay, Perkins & Co. in 1897.[26] As a result, according to the brewers, work was quickly resumed 'without any real disturbance of the friendly relations which have so long subsisted between...brewers and their employees'.[27]

Not all workers' actions were as successful. For example, similar demands made by labourers at a Welsh brewery five years earlier failed to improve working conditions. Shortly after petitioning the firm's management for higher pay, nearly all hands employed at Peter Walker's Wrexham brewery were given notice.[28] Moreover, when Burton's maltsters again struck for an increase in 1898, their demands were refused outright and eight suspected agitators were eventually charged for disrupting

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[23]Gilding, *The Journeymen Coopers of East London*, p. 56.
[24]H. Pelling, *A History of British Trade Unionism* (1976), p. 82.
[25]*Brewers' Journal*, 15 December 1889. Six hundred maltsters participated in the action.
[26]*Ibid.*, 15 June 1897. Workers on this occasion demanded an increase in wages equivalent to 2s. and 3s. 6d. per week and a four-hour reduction in their working week.
[27]*Ibid.*, 15 December 1889. The maltsters received 3s. to 3s. 4d. a day with a £2 to £3 bonus for those working to the end of the season.
[28]*Ibid.*, 15 October 1883.

production and fined £10 each.[29] Approximately a year later, all new hands in Newark's maltings threatened to quit unless granted a 2s. a week advance. The strikers quickly found themselves without work, as those men employed in the firms' barley stores were drafted into the maltings to replace the season's newest recruits.[30] Nevertheless, such conflict and extreme cases of labour unrest were rare and, perhaps to most managers in the trade, appeared more suited to conditions in America or Germany, where strikes were considerably more common at breweries throughout this period.[31] Although industrial action at English breweries appears to have increased in the twentieth century, and reached a climax between 1913 and 1914 when labourers at numerous firms demanded increased pay, industry spokesmen maintained that trade unionism had come into conflict with the brewing industry in only four British towns.[32] By this date, however, approximately 3700 brewery workers in Burton had joined the local branch of the Workers' Union, while many more in London were joining the newly-formed Brewery Workers' Union.[33] Nevertheless, American and German brewery workers had organised much earlier than their English counterparts and were thus in positions regularly and effectively to challenge managerial control. In this light, however, the dominance of the English firm could just as easily have been the outcome of worker powerlessness, and not necessarily deference.

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[29]*Brewers' Journal*, 15 November 1898; and 15 January 1899. The town's maltsters demanded a rise from 30s. to 35s. a week. Thereafter, ruptures between working men and brewers were regularly ascribed to 'outside agitators'.
[30]*Ibid.*, 15 January 1900.
[31]*Ibid.*, 15 June 1881; 15 May 1888; 15 January 1895; and 15 May 1904.
[32]*Ibid.*, 15 November 1903. Meanwhile, strikes were reported in the *Brewers' Journal* on 15 February 1913 (at R. Hutchinson & Co.); 15 April 1913 (at Northampton Brewery Co.); 15 December 1913 (at Ind Coope Ltd); 15 July 1914 (at Worthington & Co. Ltd); and 15 August 1914 (at Watney & Co. Ltd).
[33]*Ibid.*, 15 March 1914; and 15 August 1914. In September 1913, only 1600 brewery workers in Burton had belonged to the union, see *ibid.*, 15 September 1913.

Either way, the servile appearance of workers can often obscure more covert forms of opposition.[34] Non-unionised workforces use their own strategies to resist or react to managerial control. Commonly, such tactics include absenteeism and the reappropriation of products, whereby the worker uses materials for some other purpose than the productive process. Naturally, evidence of such recalcitrance is much harder to uncover than are reports of favourable brewery relations, usually written and compiled by a brewery's senior clerk or manager and published each year in newspapers and trade journals following company-sponsored events.

Under closer scrutiny, the stability of many English brewery workforces proves to be somewhat illusory. For example, as an interesting contrast to the numerous descriptions of its harmonious labour relations, in the same year that Flower & Sons celebrated the completion of their new brewery, someone also tried to destroy it. Although not reported in local newspapers, the details relating to the event are sufficiently summarised in a notice composed by the brewery's managers and posted in the plant as part of an effort to acquire some more information concerning the incident. According to the placard, some time on Sunday, 11 September 1870, 'some evil disposed person' entered the new premises and turned a tap on one of the boilers, 'thereby creating great risk of danger to life and property'.[35] The fact that Flowers restricted their search to the immediate brewing environment appears to suggest that it was here that managers expected to find their culprit. Nevertheless, it is entirely possible that the vandal was not employed by the brewery. Intriguing information contained in another recently-published brewing history indicates that an explosion, 'one of the most terrible accidents in the history of the borough', occurred only months

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[34]Newby, *The Deferential Worker*, p. 415. Newby demonstrates the way in which the placid exterior of rural life obscured many bitter antagonisms; see also Thompson and Ackroyd, 'All Quiet on the

earlier during the same year at Long's Southsea Brewery in Portsmouth after one of the safety valves on the firm's boilers had also been tied down.[36] Neither case was ever resolved.

While this incident exists as perhaps the most striking contrast to the deference the Flower family undoubtedly inspired among some of their workers, other forms of dissent at the brewery were far less dramatic, though equally important to any study of the workforce. Moreover, resistance on behalf of non-unionised workers was not always organised individually. Although usually poorly organised, brewery labourers often attempted to acquire strength by forming more casual solidarity networks among fellow workers. Consequently, although Stratford's industrial history is not punctuated with strikes, men employed in the town every so often threatened to leave work in order to persuade an employer to reappoint a recently-dismissed colleague.[37] According to an entry on 22 March 1864 in Charles Flower's personal office diary, such a spontaneous 'strike' occurred at the brewery.[38] Informed by their employer that they 'had no right' to restrict production, the men declared they would 'go to Burton for work'.[39] Although Flower appears to have managed the incident without jeopardising his labourers' services, he was confronted with another form of collective protest only a few months later. On this occasion, tension among workers mounted after a cooper, named Marshall, was given notice for being 'drunk and abusive'.[40] Soon after, two of Marshall's co-workers, also employed in the cooperage, threatened to leave should their colleague be discharged. Although Flower accepted their

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Workplace Front?' in *Sociology*, p. 629.
[35]SBTRO, DR 227/121
[36]Eley, *Portsmouth Breweries since 1847*, p. 8; and *Hampshire Telegraph*, 30 March 1870.
[37]Hewins, *The Dillen*, p. 84. Hewins describes this as the town's first union.
[38]SBTRO, DR 227/122
[39]*Ibid.*
[40]*Ibid.*

resignations and appointed a replacement cooper, named Lewis, conditions in the cooperage were slow to return to normal. Within days, Lewis approached Flower and claimed that the department's other members were 'setting on him'.[41] While the diary does not contain any additional information concerning the incident, an appointment with the local police inspector the following day may very well have been associated with the disturbance, if not its resolution. Another brief entry recorded a month later, stating 'workers argue', suggests that many divisions at the brewery continued to exist after the disturbance in the cooperage had been resolved.[42]

Informal support networks continued to be used by workers throughout this period as an important defence against decisions many regarded as unjust, if not simply as a collective form of protest. For example, in 1903, when members of the brewery's sick club voted to discontinue payments to William Gillett senior after he was unable to work for approximately six months due to illness, the labourer left the employment of the firm, accompanied by his three sons.[43] While the disappearance of their names from the firm's wage books suggests the familial protest did not reverse the board's decision or prompt any spontaneous generosity on behalf of the firm, cases when such collective action proved successful would be even more difficult to uncover using existing sources. The fact that labourers continually resorted to such means between 1870 and 1914 perhaps indicates that these actions did occasionally produce outcomes favourable to workers.

Nevertheless, such events do not in themselves seriously challenge the notion of the stable brewery workforce. Despite their significance, impromptu strikes, such as that organised by the Gilletts, were irregular occurrences and appear far less often in

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[41] SBTRO, DR 227/122
[42] *Ibid.*

Flower & Sons' records than does the thirty-year employee. Of the two hundred labourers recorded in the firm's ledgers in 1890, eight had been with Flowers for more than thirty years, while another twenty-five had fulfilled their duties in the brewery for more than two decades.[44] Moreover, many of these workers had served under the same foremen and managers during their tenures.

Additional evidence, however, suggests circumstances specific to the trade generally prevented long, uninterrupted service and, to an extent, ensured certain, regular turnovers in brewery workforces. Primarily, this phenomenon was the result of the seasonal nature of brewing in Stratford prior to 1900. As has been outlined in Chapter Two, before the introduction of refrigeration technology and the ability of Flower & Sons to brew anywhere near to full capacity, fewer workers were employed by the firm during the warmer, summer months. Naturally, many men retained their posts at the brewery. As production generally ceased, these labourers cleaned and repaired the brewery plant and facilities, or distributed ale to the firm's many widely-scattered customers, but not all two hundred workers employed by Flowers in 1890 remained in the company's service all the year round. Numerous workers recruited from the town, as well as Stratford's agricultural hinterland, would return to their rural occupations when production ceased near the end of May.

For the majority of such workers these seasonal fluctuations were not regarded as a hardship, especially since most agricultural labour in the region was performed between May and September. Furthermore, several of the town's other employers, such as builders and the three main local brickyards, conducted the majority of their business when activities at the brewery were sluggish. In Burton, on the other hand,

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[43]*Ibid.*, DR 227/84
[44]SBTRO, DR 227/83

during the 1870s, many brewery workers joined the local police force when production ceased.[45] Interestingly, almost no brewing histories give an indication of these seasonal oscillations. Alternatively, many historians have described increases in the sizes of brewery workforces over a given number of years unproblematically. In reality, however, workforces comprising hundreds of workers could decline often by a third or more in number within a month.

In the last decades of the nineteenth century, seasonal variations in the composition of Flower & Sons' labour force are more noticeable than all other fluctuations documented in wage ledgers. In 1872, for example, after employing approximately 160 labourers in January, the peak of the brewing season, the firm's ledgers list few more than a hundred employees in August.[46] Five years later, in 1877, from a maximum of 188 in January, their numbers dropped to 142 in six months.[47] Moreover, in July, various circumstances prompted four additional workers to leave the brewery's service. While this sudden reduction in hands is easily noticed given its regularity, it is as crucial that short-term variations are not overlooked when charting the seasonal pattern of labour recruitment in some breweries. If this is the case, then, apart from lower summer employment levels, the labour situation at the brewery would still appear suspiciously static. While many workers regularly (and voluntarily) departed in summer, clearly not all workers were content with brewery employment for the remainder of the year. Inevitably, the performance of certain employees did not always satisfy employers; many labourers, without a doubt, lost their jobs between 1870 and 1914 for committing various offences.

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[45]Evans, *Where Beards Wag All*, pp. 235-6; and C. Steedman, *Policing the Victorian Community* (1984), p. 88.
[46]SBTRO, DR 227/82
[47]*Ibid.*

The dynamic nature of the brewery workforce is captured in almost every page of Flower & Sons' wage books (see Table 14a). For example, although workers totalled approximately 150 men each pay period between December 1871 and April 1872, during these five months more than forty employees were discharged by the brewery and replaced with new hands. In 1877, a similar phenomenon is apparent. In January of that year, employees numbered 178. During the next two months, however, 17 names disappear from the ledgers and are replaced with those of new recruits. Were it not for comments written by the firm's clerks in the pages of ledgers we would have very little idea why workers' periods of employment ended. Sometimes few details exist. For example, six workers are described to have simply 'left'.[48] Throughout the years this comment, along with 'left without notice', became the most popular explanations used to explain any variation in the composition of the labour force. Other workers were simply 'discharged'. In some cases, however, clerks leave more detailed evidence. For example, one individual appears to have been let go by the firm 'for being absent without cause'. Another was dismissed for being 'useless as watchman'. Luckily for the historian, the firm did not attempt to introduce a standard set of explanations to describe labour turnover until after the First World War. Instead, we are sometimes left with brief, but very meaningful character descriptions: 'didn't learn his work', 'bad lot', 'not strong enough', 'discharged for disobeying orders', 'left for militia training', and even one unfortunate labourer who 'thought himself bewitched'. In total, 84 workers left the brewery's employment between January and September 1877.[49] Similar colourful descriptions are recorded in the workmen's registers of other firms. For example, those of H. & G. Simonds list labourers who were dismissed

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[48]SBTRO, DR 227/82
[49]SBTRO, DR 227/82

because they 'wanted more wages', or were 'subject to fits'.[50] Others were discharged for 'throwing a flagon through [a] window', or 'a bottle at another man'. Some, such as Alfred Douglas, who had been with the firm for one month, simply 'ran away'. Few workers' departures, however, are recorded in any other business records, for many were replaced soon after being dismissed or leaving the firm on their own accord, a fact which otherwise maintained fairly regular employee numbers and steady wage costs. Those who left the brewery's service near the end of the brewing season, on the other hand, are more noticeable, for they, having been made redundant by warmer weather, were usually not replaced for several months.

Not all labourers who left the brewery during the summer with the intention of resuming employment at the conclusion of the harvest and a change in the weather returned in September. Should harvest have been delayed, many were not in positions to return to the brewery when managers needed them most. More importantly, many appear to have found alternative employment and never again worked in the brewery. This should not be surprising given that those individuals involved in another branch of the economy increased their social circles along with potential job opportunities. Moreover, as was demonstrated in the previous chapter, few brewery workers participated in contributory pension or sickness schemes and were therefore less rooted to the workplace than they might otherwise have been.[51] Finally, workers who did not return to the brewery after the turn of the century may also have included individuals opposed to the changed nature of brewery work. For example, contemporary observers recognised that many workers employed only seasonally disliked continuous forms of employment which generally became more common at the

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[50]CA, BA/S/12

[51]See also Lee, *The Principles of Industrial Welfare* (1924), p. 24.

end of the nineteenth century and at breweries after the introduction of refrigeration technology.[52]

While we can only speculate as to why some seasonal labourers were reluctant to resume brewery work after a single season, it is clear that numerous regular employees left the firm due to the limited promotional opportunities which existed at many breweries during the late nineteenth and early twentieth centuries. A number of important studies, for example, remind historians that managers must demonstrate the potential for advancement within the firm if they are to create a stable, let alone a loyal workforce.[53] Many brewers also appear to have recognised the importance of regularly promoting employees. In a paper presented to the Institute of Brewing, Walter A. Riley suggested all brewers should give their new recruits 'some encouragement to push forward and occupy more responsible posts'.[54] In this way, an employee realised he would not always remain an ordinary labourer, but 'if he shows any aptitude he will be advanced in rank'.[55] Other members of the trade who dealt with the subject before the end of the nineteenth century also stressed the necessity of regular advancement.[56] More importantly, they realised that a lack of promotion usually caused discontent.[57]

Like other representatives of the trade, Flower & Sons' managers also frequently articulated the need to promote good workers. In a letter to the referee of a prospective employee, Charles Flower declared the firm's owners 'should not care to place any one in the brewery who would not be likely eventually to earn more than the

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[52]Page, *Commerce and Industry*, p. 421.
[53]S. Slichter, *The Turnover of Factory Labour* (1921), pp. 185 and 290-1.
[54]Riley, 'Brewery Labour Problems,' in *JIB*, p. 144.
[55]*Ibid.*
[56]Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 128; and Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 369.
[57]Hartley, 'Practical Notes on Brewery Management,' p. 369.

small salary an under brewer would receive'.[58] Some evidence suggests Flower actually honoured this claim. The rise of several apprentices to managerial and even directorial posts must have inspired the firm's most talented junior clerks. Occasionally, this goal also appears to have been within the reach of some particularly industrious labourers. For example, in June 1874, James Clifton shed his manual duties when he was transferred from the brewery to the firm's Leamington agency.[59] Such promotions, however, appear to have been more rare than those of apprentices who were eventually made directors, a feat achieved by only three of the firm's youngest recruits.

While the existence of avenues, such as apprenticeship, ensured the advancement of certain workers, the general organisation of the trade tended to prevent a healthy promotional structure from evolving until the early twentieth century. Primarily, this characteristic was linked to the age at which labourers entered the brewery's employment. As most breweries recruited few errand boys and only one or two apprentices, most entry-level positions in the trade were filled by men in their late twenties or early thirties, a curiosity perceived by Booth and his investigators in the late nineteenth century.[60] Often associated with very menial duties, these posts could breed considerable dissatisfaction among grown men, perhaps used to greater independence and responsibility prior to entering the brewery.[61] Moreover, many were burdened with their new tasks for several years, for movement through departmental ranks could at times be very slow. Flower & Sons' workers, for example, have described promotion during this period to have been like 'waiting for a dead man's

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[58]SBTRO, DR 227/110
[59]*Ibid.*, DR 227/82
[60]Booth, *Life and Labour*, III, p. 114; see also Chapter Three, p. 121.
[61]In general, labour turnover is usually concentrated among new men and young people, see Slichter, *The Turnover of Factory Labour*, pp. 43-4.

shoes'.[62] Consequently, even if paternalism encouraged long service amongst fortunate brewery workers, usually the highest-paid employees, long service among an élite in itself discouraged another entire segment of the workforce.

While Flower & Sons' ledgers list numerous workers who remained with the company for more than two decades, they also contain statistics representing a more transient workforce. For example, although approximately 15 per cent of labourers recorded in the wage book in 1890 had been with the firm for twenty years or more, almost 30 per cent of the workforce had been with the brewery for only a year or less.[63] The ledgers of other firms reveal a similar pattern. Of approximately 2100 workers listed in Simonds's registers between 1870 and 1914, 63 per cent remained with the firm for less than twelve months.[64] The majority of workers discharged by brewery proprietors belonged to this segment of the workforce, which generally comprised a firm's lowest-paid workers. Moreover, many did not wait to be dismissed. Ledgers list the names of many workers who 'left to do better' after having repeatedly been assigned to clean stables or casks, or, like Joshua Knight, not having experienced wage increases for several years.[65] Although clerks also occasionally left the firm after being refused rises, a system of advancement in the offices had, in general, been established in this branch of the industry far earlier than in the brewery, for clerks tended to be younger than labourers when first hired. Only as brewery bottling

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[62]SBTRO, DR 730/38. As a result, few labourers took any notice of a sacking, for most either waited for a job or chance to advance within the firm.
[63]*Ibid.*, DR 227/83
[64]CA, BA/S/12. Of the 2083 workers employed by the firm between 1870 and 1914, 63 per cent (1303) remained for a year or less, 15 per cent (312) between 1 and 5 years, 7 per cent (153) between 5 and 10 years, 7 per cent (156) between 10 and 20 years, 3 per cent (55) between 20 and 30 years and 5 per cent (104) for more than 30 years.
[65]SBTRO, DR 227/84; Evidence suggests clerks also occasionally left the brewery's service after continually having been denied rises, see, for example, SBTRO, DR 227/98-9.

departments began to be established were many more entry-level positions in breweries filled by boys and long service generally achieved all round.

Advancement within breweries, however, also depended on proprietors' particular recruitment practices. For example, a tendency among directors to hire managers and foremen from outside the firm further reduced opportunities for advancement. Flowers frequently sought to recruit new department heads from rivals. The brewery, however, was not the only firm which preferred to recruit senior workers from other breweries. The problem of external appointments was continually addressed by brewers at trade meetings.[66] However, although employers realised the practice lowered morale among workers, few actually desired to appoint foremen from existing workmen. While one might logically assume this had much to do with workers' skills, as few brewery workers received any formal training, in actual fact it had considerably more to do with the perceived loyalties of such candidates. Inevitably, labourers who had been with a firm for decades established durable affiliations with certain colleagues. Consequently, importing foremen from outside the district was regarded as the best way to secure a departmental head who would be loyal to his employer, primarily due to his unfamiliarity with the rest of the workers.[67]

While this, along with numerous other scenarios, often limited labourers' tenures, the temptation of drink has not even been considered. Certainly this is central to any discussion of brewery workers. Moreover, the relation between work and drink in the brewery makes the question of labour in the brewhouse very different from almost every other industry. For example, members of the trade in the first years of this

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[66]Stanley-Smith, 'Labour in the Brewhouse,' in *JFIB*, p. 128; Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 369; Riley, ' Brewery Labour Problems,' in *JIB*, p. 144; and *Brewers' Journal*, 15 August 1892. At Samuel Allsopp & Sons' annual shareholders' meeting, directors, for similar reasons, defended their appointment of an outsider to the post of head brewer.
[67]Riley, 'Brewery Labour Problems,' in *JIB*, p. 160.

century were keenly aware that drunkenness had become 'a byword for brewery employees'.[68] Not only did employees receive a regular, daily ale allowance, but evidence indicates that many took more than the standard ration. Although few brewers admitted any truth lay in this accusation, many went to great lengths in efforts to deter theft. For example, some employers appointed teetotallers or a certain 'confidential servant' to manage their racking cellars.[69] Moreover, inventories of rural brewhouses reveal that lock and key were often used to secure brews.[70] Nevertheless, despite facing such obstacles, many workers appear to have been able to 'pinch as much [ale] as they wanted'.[71] The trouble many went to in order to steal drink continually amazed members of the trade. For example, in a letter to the *Brewers' Journal*, one brewer recalled an incident involving an engineer, 'a man in receipt of good wages and liberal beer allowance'.[72] Prior to commencing mashing, he was 'in the habit every morning of drawing for himself and friends some three gallons of beer from the racking tank'. In order to do this, as part of the premises were locked, 'he had to go through the gymnastic feat of lowering himself from the beams of the building down to the lower floor, in which operation he was finally one day caught'.

A considerable amount of theft at breweries was uncovered. For example, of the 17 workers who left Flowers in January 1877, four were discharged for allegedly stealing drink.[73] In total, 21 employees were dismissed in the entire decade due to drink-related offences (see Table 14b). At Simonds in Reading such dismissals were

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[68]Riley, 'Brewery Labour Problems,' in *JIB*, p. 150.
[69]Hewins, *Mary, After the Queen*, p. 24; and James, *The Art of Brewing India Pale Ale*, p. 27.
[70]Sambrook, *Country House Brewing in England*, p. 69; and *Brewers' Journal*, 15 April 1901.
[71]Hewins, *Mary, After the Queen*, p. 20. A common method used to obtain ale involved workers puncturing a cask with a sharp tool and plugging the opening after they had drained a sufficient amount of ale. The 'invisible' puncture could then be tapped repeatedly, usually with a straw. This complicated procedure was generally referred to by labourers as 'sucking the monkey', see Gilding, *The Journeymen Coopers of East London*, p. 39; and *Journal of the Operative Brewers' Guild*, August 1914.

even more common. Between 1900 and 1914 alone, the brewery discharged 81 workers for similar offences.[74] While breweries certainly publicised cases of workers who retired from the firm after forty or fifty years, did they so rarely in cases of employees who stole drink. Most suspected the public would be quick to criticise the 'Rich brewers prosecuting a man for stealing two-pennyworth of beer'.[75] Among themselves, however, brewers eventually acknowledged that theft had, in fact, become 'too common' at breweries.[76] According to the newly-founded *Journal of the Operative Brewers' Guild*, theft would always plague brewers: 'as long as the world goes on Brewery men will steal beer'.[77]

Drunkenness was not only confined to manual workers; it was also recognised as a problem among the firm's many travellers. In 1867, for example, Flower & Sons' managers were persuaded to write to the brother of a clerk concerning the employee's drinking problem. Although the office worker was relieved of his duties, the firm volunteered to help find him employment in another brewery. This, however, the managers regarded as a difficult task 'unless he breaks himself entirely from the habit, which is difficult to do in a business like ours'.[78] A similar case was dealt with by Edgar Flower in 1886.[79] As most sales staff were expected to 'take a cigar or a glass of claret to do business', however, the problem would remain with the brewery well into the twentieth century.[80] In general, most cases were seriously pursued only when a

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[72]*Brewers' Journal*, 15 February 1894.
[73]SBTRO, DR 227/82
[74]CA, BA/S/12
[75]Riley, 'Brewery Labour Problems,' in *JIB*, p. 169.
[76]*Brewers' Journal*, 15 November 1901.
[77]*Journal of the Operative Brewers' Guild*, August 1914.
[78]SBTRO, DR 227/106
[79]*Ibid.*, DR 227/110
[80]*Brewers' Journal*, 15 February 1889. The same conditions also appear to have existed in the cider industry; this particular sales practice is stressed in L. P. Wilkinson, *Bulmers* (1987), p. 43.

traveller's performance suffered and, consequently, sales declined.[81] Moreover, unlike labourers, clerical workers, such as travellers, did not have to resort to criminal means in order to obtain unlimited quantities of drink. Staying sober simply required greater self-control when soliciting orders.

On the other hand, most brewers were far more concerned with the financial, as opposed to drinking, habits of their clerical staffs. Consequently, everyone connected to the office or through whose hands the firm's money passed was required to provide the brewery with some sort of financial guarantee against theft. Most brewers' clerks, like their banking counterparts, were bound by bonds, usually issued by their friends or relatives, though the London Guarantee Society was also prepared to undertake risks of this sort on behalf of travellers during this period;[82] insurance companies also sold 'fidelity guarantee' insurance to cover losses through embezzlement.[83] The value of a bond generally depended on the amount of cash a clerk or salesman regularly handled each week. On average a newly-appointed traveller was required to deposit not less than £50 with the firm, though larger sums were occasionally requested, or even voluntarily deposited by clerks in the form of an investment, as interest was paid on all such deposits.[84] Moreover, as an additional precaution against embezzlement, brewery managers also took a keen interest in the personal finances of clerks. Flower & Sons, like many other brewers, did not hire clerks who were believed to be 'hampered by private money difficulties'.[85] Alternatively, those clerks already in the firm's employment and who encountered financial difficulties were provided with loans at

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[81]SBTRO, DR 227/8
[82]*Brewers' Journal*, 15 August 1884.
[83]G. Robb, *White-Collar Crime in Modern England* (1992), p. 136; and Hannah, *Inventing retirement*, p. 24.
[84]SBTRO, DR 227/110. The figure is given in a letter dated 21 November 1892 from the company secretary, Charles Lowndes, to Arthur Bennett, a newly-appointed salesman.
[85]*Ibid.*, DR 227/106

favourable terms in order to pay off any existing debts. Furthermore, most were informed early in their careers not to speculate and certainly never to gamble with money which belonged to the firm.[86]

Despite these warnings, evidence suggests that embezzlement concerned employers as much as did drunkenness throughout the late nineteenth century; clerical embezzlement, after all, was the most frequently tried of all white-collar crimes, with Victorian and Edwardian prosecutions numbering in the thousands.[87] Even though such cases of fraud did not affect each individual brewer, the frequency with which embezzlement was reported in trade journals would certainly have worried most brewery owners.[88] Furthermore, fraud, it has been argued, generally dominated public discourse and perceptions of the City during these years.[89] Although most clerks and salesmen who turned out dishonest stole only small sums which managers easily recovered by retaining workers' bonds, some employees withheld thousands of pounds over a number of years and, consequently, seriously endangered the lives of entire firms.[90] For example, during the bankruptcy proceedings of Brooke Brothers' Norwood Brewery in Cheltenham, the firm's partners blamed the progressive decline of their business on embezzlement.[91] As one of the firm's largest creditors - approximately £3000 of the Brookes' property was mortgaged to Flower & Sons - the Stratford brewers certainly learned to appreciate this risk even though they never faced as serious a situation themselves.

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[86]*Ibid.*
[87]Robb, *White-Collar Crime in Modern England*, p. 133.
[88]*Brewers' Journal*, 15 January 1880; 15 April 1881; 15 June 1881; 15 August 1881; 15 February 1882; 15 July 1882; 15 September 1882; 15 February 1883; 15 May 1883; 15 July 1883; and 15 November 1883.
[89]Robb, *White-Collar Crime in Modern England*, p. 183.
[90]Robb, *White-Collar Crime in Modern England*, p. 134; and R. Sindall, 'Middle-Class Crime in Nineteenth Century England,' in *Criminal Justice History* (1983), p. 31.
[91]*Brewers' Journal*, 15 December 1888.

Nevertheless, throughout its history, the brewery had its share of dishonest clerks.[92] Between 1870 and 1914, more than a dozen clerks were dismissed for allegedly withholding monies owed to the firm. Rather than facing prosecution, public humiliation and, generally, the end of their careers as trusted company officers, a few even took their own lives.[93] Unlike drunkenness, however, theft of company funds could be prevented by improving methods of bookkeeping, for fraud thrived in 'an atmosphere of ignorance and confusion'.[94] Double-entry bookkeeping, introduced to a number of brewery offices during the 1860s, had allowed owners more closely to monitor the exact flow of business transactions.[95] According to members of the midland trade, J. B. Arter's 'A Lecture on Brewery Accounts', originally delivered in Birmingham in 1897, made this particular system of bookkeeping common in even the smallest breweries.[96] Moreover, early audits were also 'a wise precaution against fraud and embezzlement'.[97] Not surprisingly, Flower & Sons' directors were greatly concerned when, in 1903, the firm's accountants made a serious error in the brewery's bookkeeping.[98] Besides depending on such professional tallies in order to uncover cases of fraud, breweries also relied on their customers to compile detailed records and contest any cases of double billing.

Though many businessmen welcomed any information from customers and associates concerning dishonest employees, traditionally the paternalist employer

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[92]Flower, *Great Aunt Sarah's Diary*, pp. 44 and 107; *Stratford Herald*, 17 June 1892; and SBTRO, DR 227/103, 106 and 110

[93]*Stratford Herald*, 28 April 1905.

[94]Robb, *White-Collar Crime in Modern England*, p. 34.

[95]Knox, *The Development of the London Brewing Industry*, p. 160. According to Knox, the double-entry system was introduced at Whitbreads in 1868.

[96]*Brewers' Journal*, 15 March 1897.

[97]R. H. Parker, 'Misleading Accounts?' in *Business History*, XXXIII (1991), p. 3. See also Pollard, *The Genesis of Modern Management*, p. 218; and *Brewers' Journal*, 15 May 1897. According to the latter's editors, the manager of Messrs Godsell & Son, brewers of Stroud, Gloucestershire, absconded with more than £18 of the company's funds when told by the firm's owners that his books would be audited.

preferred to resolve any staff problems by way of a quiet word with workers rather than involve outsiders. In even the most extreme cases, employers seemed more willing to 'shoot [an employee] before they got the sack'.[99] As was common among other paternal employers, rather than try dishonest workers in the local courts, Flowers frequently attempted to discipline their own workforce.[100] Moreover, few workers dismissed for theft of either drink or cash were actually charged by the brewery during its first years of existence. Instead, most workers were given warnings for a first offence, as were those who committed violations after having served the firm for many years;[101] in many cases this also ensured that white-collar crime remained hidden from criminal statistics, though the line between fraud and incompetence was also frequently difficult to draw.[102] Eventually, in the late nineteenth century, many more workers were made to give up their posts at the brewery, though a surprising number still remained in the brewery's service; generally, such measures were necessary to retain the confidence of investors after many more firms incorporated in the last decade of the nineteenth century. However, although delegated numerous other important responsibilities, managers were still not to dismiss workers. At Flower & Sons, as well as many other breweries and firms run on paternalistic lines, the employer carefully preserved his monopoly over punishment throughout the final years of the previous century.

As has been argued persuasively in previous studies, paternalism cannot simply be defined as the performance of benevolent duties. To rule firmly and superintend are

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[98]SBTRO, DR 227/110. See also Chapter One, p. 53.
[99]Morris and Smyth, 'Paternalism as an Employer Strategy,' in *Employer Strategy and the Labour Market*, p. 213.
[100]Flower, *Great Aunt Sarah's Diary*, p. 44; and SBTRO, DR 730/32
[101]SBTRO, DR 227/106
[102]Robb, *White-Collar Crime in Modern England*, p. 8; and J. J. Tobias, *Crime and Industrial Society* (1967), pp. 27-8.

equally essential if an employer is to reform his workers and create a loyal and deferential workforce. Although frequently overlooked in studies of paternalism, authority, power and command are as important as charity in comprehending this approach to labour relations. Moreover, these tools were the preserve of the company owner, all having been necessary to transform 'the whole man' into an efficient industrial worker.[103] As a result, the true paternal relationship has been shown to consist of a careful balance of autocracy and obligation, cruelty and kindness.[104] Some brewers, however, were more just employers than others. Abuse of this control manifested itself in beatings as, for example, were occasionally suffered by brewery employees in America.[105] Though such severe punishments are most often associated with the children employed in nineteenth-century firms, England's brewery labourers were subjected to equally fierce scoldings, including the occasional whipping. Descriptions of such extreme penalties survive in some brewery punishment books.[106]

As one might expect, the success of paternalism requires that employers should not exceed the limits of their authority over their labourers. Despotism had to be controlled if it was to 'remain benevolent rather than tyrannical'.[107] Although many workers gladly received ale allowances or portions of beef at Christmas, not all labourers willingly submitted to what often amounted to humiliating punitive measures. Evidence suggests that even the most benevolent of employers regularly inspired rebellion among those workers who resented authority most.[108] Others suggest paternalism was regularly contested, while many workers remained beyond the reach

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[103]S. Pollard, 'Factory Discipline in the Industrial Revolution,' in *EHR*, XVI (1963), p. 267.
[104]E. Shils, 'Deference,' in J. A. Jackson (ed), *Social Stratification* (1968), p. 104; and R. Bendix, *Work and Authority in Industry* (1963), p. 51.
[105]Schlüter, *The Brewing Industry and the Brewery Workers' Movement in America*, p. 89.
[106]For example, see extracts from Steward & Patteson's Yarmouth Punishment Book in Gourvish, *Norfolk Beers from English Barley*, pp. 88-94; and Younger's Punishment Book, Wandsworth.
[107]Bendix, *Work and Authority in Industry*, p. 51.

of company management due, for example, to their religious and political affiliations.[109] More often, however, rather than challenge authoritative masters, many workers simply left. In this way, the state of labour relations in the most efficiently run establishments could quickly become unsteady. In the most extreme cases, though the deferential relations of an older age may for a time have proved themselves advantageous to many entrepreneurs, they also occasionally became extinct.[110] Forms of punishment which workers regarded as unfair, for example, could break down spontaneous consent amongst even the most loyal workers. Should the control an employer exercised in the workplace have outweighed the benefits of paternalism, the powerlessness of workers regularly produced redundancies and not necessarily an increase in strikes. For this reason, turnover among a workforce can also be interpreted as an indication of labour unrest.[111] Taken one step further, a high turnover at Flower & Sons could suggest that the brewery's own employees never entirely internalised the firm's paternalist culture, but merely tolerated many of its more negative aspects for a period of their working lives. While it remains exceedingly difficult to discover if such factors induced a number of employees to have, in the words of the brewery's clerks, simply 'left' during these years, it is perhaps more useful to ask if there actually was 'a flaw in the [firm's] grand paternalist design from the moment of conception'.[112] Preliminary evidence suggests that, although Flower & Sons' owners established a strong, local presence in Stratford, their leadership in the community fell short of the paternalist ideal in a number of important ways; this, naturally, would have limited their

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[108]McKendrick, 'Josiah Wedgwood and Factory Discipline,' in *The Historical Journal*, p. 39.
[109]Ackers, 'On Paternalism,' in *Historical Studies in Industrial Relations*, p. 181.
[110]Shils, 'Deference,' in J.A. Jackson (ed), *Social Stratification*, p. 117; and E. Goffman, *Interaction Ritual* (1967), p. 61.
[111]Slichter, *The Turnover of Factory Labour*, pp. 197-9.
[112]Ackers, 'On Paternalism,' in *Historical Studies in Industrial Relations*, p. 183.

ability to exercise such a management strategy successfully and create a stable working environment.

Traditionally, the fullest development of paternalism was seen among rural manufacturers, and especially those who enjoyed a monopoly over employment opportunities in a particular region. In the case of a number of early enterprises, such as textile mills, workplaces were not always established nearest their markets. As employers depended foremost on natural sources of motive power, many industrialists, out of necessity, constructed their factories near streams and not always in well-populated districts.[113] Consequently, although scarce, sufficient supplies of labour could only be attracted by constructing housing and providing many of the amenities which the region otherwise lacked. Should additional hands have been required, further investment in the community was essential in order to attract migrants and retain existing inhabitants. At other times, less economic motives inspired benevolent employers to construct what have been described as model villages. Either way, workers' houses generally tended to be clustered round manufactories to minimise travel time and tardiness, and the company town came to be viewed as an extension of the production plant.[114] Naturally, these circumstances provided employers with considerable control over workers, if not some interest in their general living conditions, leading many of them, then and even now, to be compared with a traditional landed élite, namely lords of the manor.

After the introduction of steam power, the establishment of industrial enterprises became less dependent on natural sources of power. Although steam engines were introduced to coal fields early on, mining operations continued to be

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[113]P. Mathias, *The First Industrial Nation* (1983), p. 120; and Bendix, *Work and Authority in Industry*, p. 35.

determined by their proximity to raw materials. Most entrepreneurs, however, relocated nearer to vital transportation routes and their target markets. Consequently, many employers, though still playing prominent roles within the workplace, were no longer impelled to provide the number of services which their more isolated industrial forefathers did to attract and retain workers. Nevertheless, many adopted paternalistic approaches to labour relations, if not for religious reasons, then due to a lack of alternative managerial strategies and for more calculated business considerations. As has repeatedly been emphasised, paternalism remained an effective means of countering labour unrest while conferring a degree of stability on workforces.

In the case of Flower & Sons, family and firm were rooted in Stratford; like most nonconformist families, the Flowers lived within their town's boundaries.[115] Although Edward Flower had no previous association to the district prior to his arrival in Stratford during the first decades of the nineteenth century, he settled in the town and even lived with his family in the brewhouse which adjoined the original brewing plant from 1837 until the late 1850s.[116] When financial success permitted the family to contemplate alternative living arrangements, rather than remove themselves from the borough, Flower constructed a comfortable home which overlooked the Warwick Road just outside the town's centre. Although having been educated at various schools throughout the Midlands, Charles Flower, Edward's son and successor, experienced a brief spell as a pupil in the local grammar school before he joined the brewery's staff.[117] After carrying out the duties associated with the post of manager at the firm's London office, Charles Flower returned to Stratford, where he also established a permanent residence and was based for the remainder of his working years.

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[114]S. Pollard, 'The Factory Village in the Industrial Revolution,' in *EHR*, XVII (1964), p. 522.
[115]Joyce, *Work, Society and Politics*, pp. 26-7.

Only in retirement did any of the brewery owners settle outside the town's immediate environment. In 1872, for example, Edward and his wife, Selina, moved to 35 Hyde Park Gardens, London, but their son Edgar continued to occupy The Hill, his father's previous residence, with his own large family. The home eventually passed to Edgar's son, Archie, when he himself retired and moved to a similarly-situated estate in nearby Broadway. Charles Flower, although an avid traveller for much of his life and purchasing an estate comprising 11,000 acres in the Scottish Highlands, remained a life-long resident of Stratford, as did his nephew, Archie. Although both frequently visited the Sutherland residence, often with members of the brewery's clerical staff, numerous civil duties kept the brewers rooted in Stratford. Nevertheless, the family was originally from Hertfordshire and was therefore not identified with the region's more established ruling families. However, this did not prevent the brewers from adopting many of the traits ordinarily associated with the traditional local élite and creating their own local power base.

Living locally permitted the owners to play a more active role in the brewery's management and also tempted some family members to take a greater interest in regional government. As with many other nineteenth-century entrepreneurs, political leadership appeared to the family a natural extension of business interests.[118] Edward Flower, like many provincial brewers, assumed local office in the town where his business was based. At other times, his appeal for such affairs divested itself from purely business interests and even appeared to be driven by a certain amount of civic pride. In the 1860s he organised the Shakespeare Tercentenary, which he staged during his mayoralty. Although prominent in local politics, the brewery's founder also

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[116]Flower, *Great Aunt Sarah's Diary*, p. 2 and 42.
[117]*Ibid.*, p. 4.

sought to win a parliamentary seat, but was defeated in various constituencies, including North Warwickshire.[119] A defeat in 1869 eventually convinced the family that 'the fates [were] against his getting into Parliament'.[120] His son Charles, although encouraged to run for South Warwickshire in 1879, never ran for national office due to the pressures of managing the brewery.[121] Nevertheless, he was Stratford's mayor from 1878 to 1880 and occupied a seat on the town council from 1876 to 1888. Soon after retiring from business, he was also sworn in as a county magistrate; he died during a county council meeting at Warwick in May 1892.[122] Edgar Flower, on the other hand, took no active role in politics.[123] Although no member of the family played a role in local government during the last decade of the nineteenth century, the firm's brewer, Francis Talbot, represented 'brewery interests' on the town council in these years.[124] Archie Flower more than made up for this hiatus in the twentieth century.

Due to their strong local leadership, the Flower family would eventually make their names synonymous with Stratford, a condition which was essential if the family were to exercise their paternal duties successfully. However, this was not always easy, as the proximity of labourers to their place of employment is as crucial to the success of paternalism as is the employer's role within a given locale. For example, while other local leaders, like Flower, interacted regularly with employees, a number of brewery labourers came to the town from outlying agricultural districts. As a result, workers not only encountered their employers only periodically, but they learned to recognise alternative hierarchies, at times far different from that which existed in Stratford.

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[118]H. L. Malchow, *Gentlemen Capitalists* (1991), p. 1.
[119]*Stratford Herald*, 16 December 1864; and 14 July 1865; and Flower, *Great Aunt Sarah's Diary*, pp. 60 and 68.
[120]Flower, *Great Aunt Sarah's Diary*, p. 68.
[121]*Ibid.*, p. 89.
[122]*Ibid.*, p. 117; and Flower's obituary in the *Stratford Herald*, 6 May 1892.
[123]*Stratford Herald*, 31 July 1903.

Nevertheless, the majority of Flower & Sons' labourers lived within the town. Few, however, lived in company housing.

Besides providing accommodation for workers, there were other ways of creating the 'fiction of community' on which the paternal employer's control depended. While the provision of housing, for example, gave mining managers near-absolute control over the inhabitants of pit towns, company-owned pubs and shops and even company-appointed curates greatly increased a proprietor's sphere of influence.[125] Unfortunately for the Flowers, these institutions do not appear to have bolstered the family's authority in Stratford. Despite owning most of the town's public houses, none was directly managed by the firm. Consequently, such establishments remained relatively neutral territory for brewery workers, as was the parish church. Dealings with local clergy were strained at the best of times, primarily due to the family's particular line of business. Relations further deteriorated as a result of personal rivalries and the conflicts these struggles generated. Charles's relationship with a local incumbent, George Arbuthnot, was especially difficult.[126] A generation later, the family's strong leadership role in Stratford was similarly undermined with the arrival of writer and conservationist Marie Corelli, who not only regularly questioned the family's political influence, but also regarded the Memorial Theatre as simply another 'tied house'.[127] Eventually, Corelli managed to offend the entire industry when she described beer as 'an emulsion of arsenic flavoured with malt' in her novel *Holy Orders*.[128] The local élite itself certainly never presented a unified front throughout the late nineteenth and early twentieth centuries. Only when criticised from outside was a

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[124]*Stratford Herald*, 26 October 1888.
[125]R. J. Waller, *The Dukeries Transformed* (1983), pp. 88-91.
[126]Flower, *Great Aunt Sarah's Diary*, p. 108.
[127]R. Bearman, 'God's Good Woman,' Festival Lecture, Shakespeare Birthplace Trust, July 1995.
[128]*Brewers' Journal*, 15 September 1908.

degree of solidarity among the town's leaders established, but even these attacks did their share of damage, such as that suffered by Charles Flower, who was dubbed 'Self-Raising Flower' in the 1870s for his role in the construction of a theatre in Shakespeare's name.[129] Certain prominent citizens, such as Anthony Trollope, came to regard Flower as 'a worthy old gent, who wants to go down to posterity hanging on to some distant rag of the hindermost garment of the bard of Avon'. [130] Not surprisingly, the brewer's subsequent charitable acts were usually carried out anonymously.

While it remains problematic to determine whether the family's reputation, good or bad, extended into the regions from which the firm's seasonal labourers originated, some employees had regular contact with their employers outside work hours. For example, the Memorial Theatre's box office was originally run by the firm's cashiers; [131] some members of staff even performed as extras in theatre productions.[132] While theatre volunteers tended to come from the firm's offices, brewery labourers regularly attended camps organised by Stratford's local militia, which was lead by Charles Flower for a number of years. Consequently, as opposed to the theatre, this institution far more successfully justified the family's authority, while also instilling certain notions of discipline among the dozen or more workers who participated in its drills and outings between 1870 and 1914.[133]

A local institution which played a more important role in the supervision of character and helped instil the habits of regularity demanded by industrial employers were schools. In many cases a school's prime function, as has been argued elsewhere,

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[129]Pringle, *The Theatres of Stratford-upon-Avon*, p. 13.
[130]N. J. Hall, *Trollope: A Biography* (1991), p. 437.
[131]SBTRO, DR 730/11
[132]*Ibid.*, DR 730/15
[133]*Ibid.*, DR 227/82-5

was not simply to educate the masses, but to discipline them.[134] Besides instructing children in the rules of regularity and obedience, these institutions almost always taught pupils the subtle aspects of local hierarchies. If not given an opportunity to dissect local relations in detail, students at least learned to identify community leaders. For example, in Stratford, pupils were told to raise their hats upon encountering Archie Flower in the town's streets, for he was 'the biggest man in town'.[135] When confronted with such lessons at a very early age, many more local inhabitants accepted the idea of paternalism upon entering employment, for it reflected the way in which many people were brought up.[136] Consequently, a dependence culture is more easily fostered by hiring young staff.

Although dozens of school-age boys entered the firm's bottling department and offices after the First World War, few members of this potentially loyal workforce were employed at the brewery in the nineteenth century.[137] Despite the advantages such a policy entailed, Flower & Sons did not actually hire many local boys prior to the interwar period. As described in considerable detail in Chapter Three, the majority of brewery employees were on average much older than was common in most other industries; only a few sons, and hardly any daughters, worked alongside their fathers in the brewery. As family and work roles rarely overlapped in Stratford, the firm's particular style of paternalism was not usually reinforced in workers' homes. Even when this was the case, the results were not what one would expect. For example, some evidence suggests company-sponsored events, such as annual dinners and picnics, were not always as successful as they were reported in local newspapers. Mary Hewins, whose memories of company excursions were discussed in the previous

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[134]Landes, *The Unbound Prometheus*, p. 342.
[135]SBTRO, DR 730/32

chapter, for example, attended only one of the Flower family's yearly garden fêtes. Observed the entire time while at The Hill, the Flower family's home, Hewins simply 'didn't feel comfortable' and, consequently, did not regularly attend company events.[138] Moreover, though perhaps introduced to the town's school-aged population as the 'biggest man in town', Archie Flower, according to Mary, was not the most important of the borough's residents. Among Hewins and her family, this honour, with slight modifications, was bestowed on Mrs Windsor, who mangled their clothes and, consequently, permitted the women in the household to seek paid employment.[139] Many of the brewery's other young labourers had not even been raised in Stratford. As a result, few would even have been instructed in the deference or status rituals taught occasionally in local school rooms. Alternatively, a steady flow of workers travelled into and out of the borough in search of work, a fact which regularly diluted any perceived ideas of loyalty. The coming of the railways, though good for business, only increased workers' migration rates. As has been argued elsewhere, railways enabled labourers to shift from place to place and, more importantly, 'change their patrons and employers as easily as their coats'.[140] In short, the town lacked the stable environment in which paternalism has been shown to thrive.[141]

Unlike Blackburn millowners or more isolated industrialists, the Flowers were never able to impose a stranglehold on the town of Stratford;[142] indeed, the family often appeared ready to abandon the town throughout the period Edward Flower ran the firm. Moreover, although the brewery dominated the town's physical landscape,

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[136]Martin and Fryer, *Redundancy and Paternalist Capitalism*, p. 85.
[137]SBTRO, DR 730/24
[138]Hewins, *Mary, After the Queen*, pp. 23-4.
[139]*Ibid.*, p. 3.
[140]Bendix, *Work and Authority in Industry*, p. 100.
[141]Joyce, *Work, Society and Politics*, p. xxi; and G. M. Norris, 'Industrial Paternalist Capitalism and Local Labour Markets,' in *Sociology*, XII (1978), p. 480.

the family never dominated the region's mental landscape. Although having adopted a very benevolent approach towards labour relations, the family's managerial experiences actually demonstrate the difficulties associated with transferring the social controls of paternalism to a local labour market. Moreover, the fact that larger, and especially growing, communities can only rarely effectively be controlled by a single employer has long been recognised. Urban workers, as Michael Huberman, among others, has pointed out, generally have more bargaining power.[143]

Although it is very likely that the brewery's proprietors retained a very loyal following among those workers with whom they worked closely inside and outside the brewery, a larger number of Flower & Sons' workers appear to have interacted only rarely with their employers. Evidence suggests the brewery had very little contact with employees' families. Most were visited at home only when sick, and then usually only by a member of the sick club committee.[144] Although an important part of the deferential relationship, direct contact with the brewery's owners was something only few workers experienced, especially after 1870 when the firm's new premises were constructed at some distance from their offices, and the number of brewery employees surpassed one hundred and expanded yearly.

Given the increasing size of late nineteenth-century brewery workforces in general, and considering those factors which undermined deference among labourers, the only way in which brewery proprietors could have exercised greater control over their workers was by increasing the supervisory powers of brewers and departmental foremen. Besides indicating, to an extent, the failure of the paternalist approach, which

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[142]H. I. Dutton and J. E. King, 'The limits of paternalism,' in *Social History*, VII (1982), p. 59.
[143]Huberman, 'The economic origins of paternalism,' in *Social History*, p. 178; see also Waller, *The Dukeries Transformed*, p. 280; and Ackers, 'On Paternalism,' in *Historical Studies in Industrial Relations*, p. 177.
[144]SBTRO, DR 730/15

depended on the strong leadership roles of the employers themselves, such steps, according to trade representatives, would also essentially divide authority at breweries.[145] Generally, a wider diffusion of control would, according to many brewery owners, inevitably lead to friction, as workers would not know who their 'real' master was.[146] As a result, rather than reorganise entire firms, many owners refused to hand over control to the man in charge of the copper, even if this was bad for business. At a number of breweries, right into the twentieth century, many operative brewers, for example, had no say in purchasing, let alone in the dismissal of workers.[147] Furthermore, the power of the foreman was even more hotly contested than that of the brewer, as delegating power to these employees was like handing the business over to the workers. Instead, paternalism often lived on at businesses long after it ceased to be an effective managerial tool.

The only department traditionally ruled by a foreman, due to its solid craft associations, was the cooperage. Sixteenth-century legislation actually prevented brewers from practising the cooper's trade of barrel making.[148] Although some brewers eventually overlooked this restriction, few modern brewers actually had any knowledge of the craft and therefore tolerated the independence of this branch of the trade.[149] As a result, unlike brewing pupils, apprentices in the cooperage were always under departmental foremen. The same individual generally managed all other aspects related to the manufacture and repair of casks and reported to brewery management only periodically.

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[145]Riley, 'Brewery Labour Problems,' in *JIB*, p. 142.
[146]*Ibid.*
[147]*Ibid.*, p. 162.
[148]Dunlop and Denman, *English Apprenticeship and Child Labour*, p. 22.
[149]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 361; and *Brewers' Journal*, 15 October 1895.

On the other hand, employers did attempt to supervise the brewery's other departments more carefully. However, while it was relatively easy to keep an eye on workers who occupied contained spheres, as when Mary Hewins attended the Flower family's garden party, it was considerably more difficult to supervise every labourer employed in the average mid-sized brewery, though this did not stop some brewers from trying. Evidence from brewery plans suggests that brewers' offices, especially at the largest firms during the nineteenth century, were usually built to allow for better supervision.[150] At Flower & Sons, offices were constructed in a way which gave directors a 'bird's eye view' of affairs at the copper and in the brewery yard.[151] Other brewers, such as Messrs Ratcliffe & Jeffrey of Northampton, took more drastic measures and removed walls in order to improve supervision in their old buildings.[152] Regardless of these efforts, employers inevitably had to put up with numerous blind spots.

Some consequently concerned themselves less with supervision than with timekeeping. Only a few brewers, however, implemented such strategies, which had, according to editors of the trade's journals, become the 'custom in vogue' at the close of the last century.[153] For example, in 1883, managers of John Smith's brewery at Tadcaster fitted electric bells throughout the newest sections of their plant.[154] Occasionally, labourers were even made to 'clock in' at work. According to Alfred Barnard, who toured several dozen British breweries at the end of the last century, only a handful of firms employed timekeepers.[155] At Flower & Sons in these years,

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[150]*Brewers' Journal*, 15 May 1881.
[151]Hewins, *Mary, After the Queen*, p. 46.
[152]*Brewers' Journal*, 15 September 1883.
[153]*Ibid.*, 15 October 1898.
[154]*Ibid.*, 15 February 1883.
[155]Barnard, *The Noted Breweries*, I, p. 136. At Eldridge, Pope & Co.'s Dorchester Brewery labourers were summoned to their 'daily toil' by a great bell. Arriving at the brewery, workmen gave their

only office workers had their days regulated as strictly.[156] Besides adorning their buildings with clocks, which chimed quarters and hours, some brewers erected steam whistles which sounded mornings and evenings and were audible to a district's entire population.[157] Not everyone, however, regarded their periodic blasts as a public service. The Trent Valley Brewery Company in Lichfield, for example, was served an injunction to remove its steam whistle in 1882.[158] In other communities, local councils regulated both the number of times a whistle could sound and the duration of each blast.[159] Moreover, in less secluded settlements, such instruments did not always command a dominant role in inhabitants' lives. After 1850, for example, the sounds associated with Flower & Sons' brewery were regularly overwhelmed by those of the local railway.[160] In the most developed urban settings, few individuals would have noticed some brewers' plants were it not for their chimneys or the smell associated with production.

Once employed at breweries, few labourers had their new duties regulated by 'rigid clock-time'. The very design of breweries frequently made the strict regulation of time a difficult task. Given the size of many provincial breweries, and the existence of numerous entrances, workers could not easily be made to clock in before commencing their work. Some plants, especially those located in the provinces, covered acres of land and appeared like miniature cities to visitors. At times, facilities took days for visitors, such as Barnard, to view entirely, and might have taken much

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names as they passed the timekeeper's office at the firm's main gate. The other breweries at which similar arrangements existed included the Regent Road Brewery in Salford, Bentley & Co.'s Eshald Brewery near Leeds and the City Brewery in Oxford.

[156]SBTRO, DR 730/15

[157]Barnard, *The Noted Breweries*, II, p. 346.

[158]*Brewers' Journal*, 15 October 1881; and 15 July 1882.

[159]*Brewers' Journal*, 15 June 1896. After a meeting of Lewes Town Council, it was decided that steam whistles at breweries could sound only ten times a day between 5:55 am and 6:50 pm. The duration of each blast was not to exceed ten seconds.

longer should they not have been accompanied by a guide.[161] Moreover, the idea of organising work along such precise lines in the mid-nineteenth century was regarded as impractical by brewers, and especially the Flowers, primarily due to the state of brewing technology. Prior to the introduction of the refrigerator, production was not only seasonal, concentrated in the autumn, winter and early spring, but brewing times varied to an extent which defied all attempts to measure the production period accurately. After breweries began to acquire the latest cooling machinery, the length of the brewing process often still varied, depending on the season and existing weather conditions. Furthermore, though supervision was occasionally improved by making structural changes to plants, the flexibility demanded of the workforce implied that many labourers constantly moved between numerous, scattered departments. Others, such as draymen, spent the majority of their working day away from the brewery. Consequently, supervision proved extremely difficult for brewers to enforce right into the post-First World War period.[162] However, as labour costs made up less than 10 per cent of brewery expenses - the majority comprising raw materials, duties and licences - most brewers appear to have been satisfied with their employees' performances as long as each day's brewing was successfully completed, and production proceeded without interruptions (see Tables 3 and 11).[163]

In many cases, however, lack of discipline and slackness, as uncovered by certain members of the Institute of Brewing, had begun to characterise brewery staffs.[164] The workmen's register of H. & G. Simonds, like Flower & Sons' wage

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[160]Hewins, *Mary, After the Queen*, p. 2.
[161]Barnard, *The Noted Breweries*, I, p. 62; see also G. Dodd, *Days at the Factories* (1967), p. 31.
[162]Riley, 'Brewery Labour Problems,' pp. 141-170. These are the same conditions which often made the supervision of agricultural labour difficult, see E. P. Thompson, 'Time, Work Discipline and Industrial Capitalism,' in *Past & Present* (1967), p. 78.
[163]Donnachie, *A History of the Brewing Industry in Scotland*, p. 200.
[164]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 366.

books, reveals substantial labour turnover.[165] Though less detailed, the wage books of the Sheffield brewer S. H. Ward also reveal considerable turnover. Of those workers employed at the brewery in 1875, only two remained in the company's service five years later.[166] Not surprisingly, previously convinced of their reforming abilities, brewers at the end of the nineteenth century more regularly claimed that the 'inferior workman must not be tolerated'.[167] As a result, many more employers began to rely on the least personal tool of labour relations, dismissal.

Evidence in Flower & Sons' archives suggests this had become the brewery's main method of labour management by the end of the nineteenth century, if not earlier.[168] In 1902, after receiving a letter contesting their decision to discharge a drayman, the firm's directors argued that such actions could be considered only if the worker were their sole employee. Their treatment of one man, however, '[had] an action on all others'.[169] Moreover, employees charged with theft were almost certainly sure to be tried in a police court, a decision which a previous generation of managers had avoided, but was now deemed necessary if such examples of worker insubordination were to be effectively deterred. Under these new circumstances, even the firm's oldest employees were not provided with second chances. According to its directors, the firm employed hundreds of workers and had to 'consider the point of examples to others'.[170] Consequently, when faced with theft or disobedience among their workers, brewers, like Flowers, began to rely solely on the powers of dismissal in order to solve all their labour problems. In this sense, paternalism at Flower & Sons

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[165]CA, BA/S/12
[166]Sheffield City Archives (SCA), microfilm A173
[167]Hartley, 'Practical Notes on Brewery Management,' in *JFIB*, p. 367.
[168]SBTRO, DR 227/110
[169]*Ibid.*
[170]*Ibid.* The letter is dated 18 December 1903 and is from Charles Lowndes to the Secretary of the Charity Organisation Society, Worcester.

was subject to not only finance, as argued in Chapter Five, but was also very closely tied to the size of the labour force. Once again, growth in the number of a firm's employees proved to be 'the enemy of paternalism'.[171]

Given a decline in the willingness of directors to tolerate insubordination, or even attempt to reform unruly workers, it was also no longer necessary for labour management to remain the preserve of the benevolent employer as it had been in the past. Instead, this less-personal system of control introduced by the brewery's third generation of managers could more easily be consigned to various senior, non-family members of staff. Rather than delegate these powers to directors or other senior members of the firm's clerical staff, however, the firm's operative brewer, Francis Talbot, assumed almost complete control over the management of labour. At other breweries such a move appeared equally sensible. In most cases the largest percentage of brewery workers already came under the supervision of the head brewer. Moreover, if this particular employee was ultimately to be responsible for output, the quality of all beer brewed and the economics of brewing, it was only logical that he should have control over matters from 'start to finish', including purchasing, recruitment and especially dismissal.

Although the adoption of a policy which centred on a manager's powers of dismissal caused numerous difficulties in other industries, this never became an issue at Flower & Sons due to the firm's links to Stratford's agricultural hinterland. Into the twentieth century, a steady flow of rural labourers into the town permitted the directors to discharge unmotivated or disloyal employees without suffering any of the losses traditionally associated with training. Most workers already came to the brewery with skills which were easily applied to production and, subsequently, little time or

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[171] Ackers, 'On Paternalism,' in *Historical Studies in Industrial Relations*, pp. 185-6.

money was spent on the education of workers. Instead, each year, brewery managers drew up waiting lists of workers who desired brewery employment. Easily replaced, the average labourer employed by the firm was left with very little bargaining power. In most cases, the threat of dismissal was sufficient to maintain a degree of order among a staff which now comprised several hundred labourers; only the most senior members of brewery staffs ever appear to have contested their employers' powers of dismissal.[172] Finally, and most importantly, while the firm's founding family never entirely withdrew from the business, they had created a form of labour management more easily passed on to operative brewers and, ultimately, departmental foremen.

Although the diffusion of power in firms, as well as the question of divided authority, was discussed by brewers well into the twentieth century, some firms witnessed the introduction of similar managerial methods even earlier than at Flower & Sons. For example, proprietors of the Tadcaster Tower Brewery, for whom brewing appears to have been the most effective means of financing expensive habits and leisure pursuits, such as racing, were only too eager to leave the bulk of managerial responsibilities to qualified individuals like C. H. Tripp soon after having erected their brewing plant.[173] Not surprisingly, having acquired a more comprehensive knowledge of brewery management than most other operative brewers, Tripp's articles in the *Brewers' Journal* relating to this aspect of the trade for a time became the periodical's most popular feature and, published collectively, formed the earliest practical guide to management in the trade.[174] At other firms such changes were usually provoked by

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[172]*Brewers' Journal*, 15 February 1892; and 15 August 1892. Of the numerous cases relating to wrongful dismissal printed in the *Brewers' Journal* during these years, all involved managers, clerks or brewers.

[173]W. Swales, *The History of the Tower Brewery Tadcaster* (1981), especially pp. 1-16.

[174]The *Brewers' Journal*, 15 June 1892, contains a review of C. H. Tripp's *Brewery Management: Embracing the practical working of the office, malting, brewing, wine and spirit, mineral water, and bottling depts* (1892). Although the book is not contained in Charles Flower's collection, a large

circumstances, often as peculiar, although particular to their own unique conditions. In most cases, however, a general increase in the labour force necessitated a similar diffusion of power. While this had largely inspired reorganisation at Flower & Sons, the specific timing of changes, however, were again very much associated with its financial state at the turn of the century.

Although Flower & Sons would continue to be associated with the firm's founders, few members of the Flower family after Charles regularly appeared in the brewery. As first discussed in an earlier chapter of this study, Archie Flower never worked alongside a brewing copper; his training, like that of many of his contemporaries, was an academic one, which, in the broadest way, prepared him primarily for office work and a seat on the company's board of directors. Moreover, each generation of the family is associated with a different style of management. Edward Flower was a brewer and manager who quite naturally became well acquainted with his small staff of labourers, alongside whom he worked each day. As such, benevolence at the brewery in its early years was very much inspired by the owner's intimate knowledge of his workers. Having also passed through most, if not all, branches of the firm, Charles Flower was equally familiar with his workers and the tasks they performed. Archie Flower, on the other hand, worked only in the firm's offices and rarely appeared in the brewery, especially in the years after the company's London trade collapsed. The relative increase in the duties of the firm's chairman were further exacerbated with the death of his brother, Richard, with whom the management of the business might otherwise have been shared. Instead, while many other operative

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number of copies were sold to members of the trade by Stratford's brewers' chemists, Kendall & Son, see *Brewers' Journal*, 15 October 1892. A second edition of Tripp's work was published in 1911.

brewers remained dissatisfied with their limited control over production, Francis Talbot assumed far greater responsibilities than any brewer previously employed by the firm.

Interestingly, additional evidence also reveals how Talbot conceptualised these important changes. As a result, while members of the trade had feared such transformations would ultimately divide authority at breweries, Flower & Sons' archives shed light on the way in which such decisions actually affected labour relations in breweries. For example, during a meeting of the midland branch of the Institute of Brewing, Talbot revealed his split loyalties in a discussion which followed A. L. Jolliffe's paper on the subject of the eight-hour day as it affected brewers. A long-term employee and former apprentice at Flower & Sons, Talbot, perhaps understandably, believed he had 'a duty to the employer' as well as the employed.[175] However, as materialised at a number of other firms, having been granted greater managerial powers, the operative brewer had drawn more closely to his employers. Though he suggested brewers should 'feel as much on the side of the workman as of the director', he admitted the demands of labour were a times 'a bit excessive'.[176] Nevertheless, Talbot looked forward to further improvements in education, for he was certain that, in coming years, 'reason would adjust matters'. As things stood at the time, the workman, unlike the brewer, did not feel 'that interests of the brewery were identical with his own'. As opposed to the glowing reports issued annually by his employers, Talbot does not suggest this was ever the case at Flower & Sons.

In the end, what Flower & Sons was left with in the first years of the twentieth century was a workforce which appeared very loyal. Naturally, those conscious of the employers' paternalist methods and frequent acts of benevolence were quick to

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[175] A. L. Jolliffe, 'The Eight-Hour Day,' in *JIB* (1919), p. 236.
[176] *Ibid.*

attribute conditions at the brewery to this tradition of labour management. However, judging from the firm's ledgers, this style of labour relations was not always entirely successful and often proved very difficult to implement due to, for example, the dynamics of the region's labour market or the inability of workers to resist the product they manufactured. Consequently, the brewery workforce continued to experience high levels of turnover between 1870 and 1914. In many cases, however, such conflict remained shrouded by the seasonal nature of the trade at many firms. Maintaining a semblance of stability after brewing was carried out all the year round, on the other hand, appears to have required employers carefully to prune labour forces of their most troublesome elements and, as always, regularly issue reports in local and national papers which spoke of the good feelings which existed between master and men in the brewing industry.

Conclusion

The transition from an agricultural economy to an urban one has traditionally been depicted as a difficult process. The skills and experiences of Victorian rural labourers have only rarely been regarded as useful to industrial production. In general, only the abilities of the tractor driver, or individuals privileged to have worked on mechanised estates, were easily introduced to urban industries; those familiar only with the days of the horse and plough were at a distinct disadvantage.[1] More importantly, the culture associated with country life left even the most skilled agricultural worker unprepared for modern industrial pursuits. If not employed in a factory, fines and, not infrequently, more severe punishments, many described by E. P. Thompson and subsequently incorporated into general social and economic history texts, have been regarded as necessary in order to instil notions of time and work-discipline among rural labourers unfamiliar with the conditions associated with industrial employment.[2] Ever more research carried out since the publication of Thompson's influential article, however, has begun to stress the complexity of workers' experiences during industrialisation and suggests a need to explore alternatives to this model.[3] In particular, evidence from historically-neglected industries, such as brewing, suggests some workers may have faced easier transitions.[4]

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[1]Newby, *The Deferential Worker*, pp. 151 and 279; *Land Worker*, January 1950, p. 7.
[2]Thompson, 'Time, Work Discipline and Industrial Capitalism,' in *Past & Present*. Also see Pollard, *The Genesis of Modern Management*; his article, 'Factory Discipline in the Industrial Revolution,' in *EHR*; Landes, *The Unbound Prometheus*; and Mathias, *The First Industrial Nation*.
[3]See, for example, Newby, *The Deferential* Worker, p. 387; and P. Joyce, *Visions of the People* (1991) pp. 3-12.
[4]Research which challenges this traditional paradigm includes S. Horrocks, 'Women resisting their own emancipation?: Canned food and the British in the interwar years,' Warwick Seminar Series in the Social History of Medicine, University of Warwick, January 1998. See also Fitzgerald, *British Labour Management and Industrial Welfare*, p. 58. Moreover, the frozen-foods industry has greatly challenged traditional notions of agricultural work, see, for example, Newby, *The Deferential Worker*, p. 287.

What is clear from the available information on the subject is that, prior to 1900, brewing in Stratford was largely a seasonal occupation. In general, brewing was carried out between October and April. As a result, staff sizes varied considerably between 1870 and 1890. Approximately a quarter of Flower & Sons' employees left the brewery during the summer months. Those who remained in the firm's service were occupied with either cleaning work, repairs or the general distribution of ale. Given the seasonal nature of the work, the brewery often recruited additional hands from the rural districts located nearest Stratford during the busier winter period. Consequently, years before giving up rural work entirely, many labourers were able to combine such employment with their existing agricultural tasks and responsibilities. More importantly, due to the need for skills traditionally associated with agricultural workers, the brewery was an environment familiar to most rural migrants. Rather than being faced with unfamiliar and harsh industrial conditions, agricultural labourers employed in many of the country's breweries easily fulfilled their new manufacturing duties.

Traditionally, brewing has been very closely tied to the English countryside. Brewing during the eighteenth century, as Pamela Sambrook's and, to a lesser extent, John Burnett's works reveal, remained an important domestic task in many rural households.[5] Inventories for the period reveal the wide distribution of the materials which families, and usually women, used to brew their own alcoholic beverages. When the public began to demand the more stable products brewed commercially, farmers who provided their labourers with ale, even after the passage of the Truck Acts, continued to rank among professional brewers' most valued customers. For much of the Victorian period,

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[5]Sambrook, *Country House Brewing in England*; and J. Burnett, *Plenty & Want* (1979), especially p. 20.

the two parties essentially lived in symbiosis, for most brewers returned to their valued, rural customers in order to purchase large amounts of English barley, hops and even the horses which pulled their drays.[6] Given the ties which existed between the farmer and brewer, it is not surprising that many agricultural labourers eventually found employment in the breweries which regularly purchased the barley they harvested.

The late Victorian period, however, witnessed various scientific and technological advances, many of which applied to brewing. Primarily the result of work carried out by Louis Pasteur at the École Normale in Paris and Emil Hansen at the Carlsberg Brewery in Denmark, brewers learned to control the brewing process due to a greater understanding of yeast and the importance of cleanliness within the production process. Thermometers, hydrometers, which allowed individuals to gauge the density of a liquid, and microscopes all gave brewers greater control over production, and facilitated communication among those interested in the trade or simply in zymotechnology, the science of fermentation. Consequently, brewing textbooks became not only more numerous, but provided easy-to-follow instructions. Trade journals continued to disseminate the results of the latest research and, eventually, technical education was improved due to the efforts of members of the Institute of Brewing, the newly-appointed staff of England's first School of Brewing and Malting at Birmingham University and consultant chemists who provided private tuition in London, Burton-upon-Trent and even Stratford-upon-Avon.

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[6]Many brewers in these years brewed with only English barley. For an extreme example of such patriotism among brewers see Gourvish, *Norfolk Beers from English Barley*. According to Alfred Barnard, Truswell's Brewery in Sheffield also malted only English barley, see *The Noted Breweries*, I, p. 342. Flower & Sons, on the other hand, always appears to have purchased the cheapest available barley, whether foreign or home-grown.

Nevertheless, despite these significant developments, the majority of brewery employees remained largely unaffected by these changes. Although the industry produced a number of noted scientific leaders, the trade lacked a technically-trained rank and file. While some firms established their own laboratories and hired trained chemists to analyse brewing materials and manage the production process, many more English brewers established only tenuous links to this scientific community, having only periodically hired consultant chemists to carry out tests on raw materials or provide technical advice. Moreover, despite the existence of apprenticeships at individual firms, brewers did not always incorporate scientific work into these training programmes. Furthermore, though this particular form of instruction survived at many breweries well into the twentieth century, apprentices remained an élite within the trade, as companies, like Flowers, accepted only one or two pupils, who, over a period of two years, performed mainly practical tasks and enjoyed preferential treatment. Undoubtedly the result of apprentices' large premiums, the former characteristic also guaranteed that this institution evolved into what can be described as an early form of managerial training rather than a form of cheap labour as was common in many other trades.

As opposed to brewers' apprentices and even clerical workers, who were generally hired soon after leaving grammar school, brewery labourers tended on average to be older than ordinary urban labourers. Moreover, many were recruited from agricultural trades and received little formal training. Census returns for Stratford, for example, demonstrate that this was the most common route into Flower & Sons Brewery for much of the nineteenth century. Wage books for the late-Victorian period suggest that as many as a third of the firm's labourers came from the agricultural districts within approximately ten

miles of Stratford each brewing season; wage books of other firms depict a similar reliance on rural labour, even though they may have overcome the difficulties associated with summer brewing earlier than their Stratford rivals. Despite contemporary descriptions of rural backwardness and the unskilled agricultural labourer, many farm workers possessed skills which were easily incorporated into the brewing process. Skills such as those described by F. E. Green, among other contemporary agricultural authorities, were required in brewery maltings where workers handled germinating barley grains. Furthermore, before entering breweries many labourers had, among other things, dug drains, ploughed, painted wagons, broken in colts and, of course, if previously employed on a modern estate, worked or repaired machinery. All of these skills were easily incorporated into those comprising a brewery workforce. Moreover, the average brewery worker had to be adaptable. While perhaps beginning the brewing season as a maltster, many soon worked alongside coppers, cleaned fermenting vats or casks, participated in construction projects at the brewery and its public houses, or even cared for horses, which were indispensable to the distribution of ale well into the twentieth century. In this way, many rural workers proved themselves equally indispensable to their employers.

Once employed at breweries, few agricultural labourers were faced with unfamiliar tasks or had their new duties regulated by the rigid clock-time so often associated with industrial capitalism. The very design of breweries frequently made the strict regulation of time a difficult task. Given the size of many provincial breweries, and the existence of numerous entrances, workers could not easily be made to 'clock in' before commencing their work. Some plants, especially those located in the provinces, covered acres of land and comprised a multitude of departments, not to mention labyrinthine cellars. Moreover,

the flexibility demanded of the workforce implied that many labourers constantly moved between numerous, scattered departments. Consequently, supervision, according to brewery owners and managers, proved extremely difficult for brewers to enforce right into the post-First World War period.

Most brewers used only subtle methods to control their workforces. Those running the smallest provincial breweries exercised what Thompson, McHugh and others in organisational studies describe as 'simple control'.[7] All workers were known by name and encountered face-to-face daily. Even larger firms, like Flower & Sons, which outgrew the size which permitted such intimate relations, however, witnessed the introduction of similar managerial styles. Although rarely in direct contact with labourers, these entrepreneurs provided their workers with regular ale allowances, 'Christmas beef', usually a pound or two, sick clubs and even cottages, and, by so doing, developed reputations as benevolent employers. Besides bestowing such goods on workers, some extended their philanthropy to the towns in which their businesses had prospered in the form of theatres and libraries. Charles Flower gave Stratford the Royal Shakespeare Theatre in 1879 and donated considerable sums to hospitals and various local charities. Other proprietors returned rents to their tenants after failed harvests. Most of the time there did not seem to be a limit to the charitable activities of the largest brewers in the British Isles.

While donations to entire communities allowed the affluent, among other things, to enhance their social status, nineteenth-century business leaders expected a return on all gifts which they granted their workers. The expense associated with benevolence was in

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[7]P. Thompson and D. McHugh, *Work Organisations* (1990), pp. 50-2.

most cases an investment, which repaid employers in the form of faithful service. In an age with very little managerial understanding, among a particularly wealthy body of industrialists, paternalism became an important, if not the predominant, method of labour management in breweries.

Inevitably, some brewers generated loyalty among their staffs better than others. Nevertheless, working conditions in most breweries regularly produced dissatisfaction, though not always strikes. Despite the existence of a benevolent tradition at Flower & Sons, a considerable amount of labour turnover is revealed in the brewery's ledgers between 1870 and 1914. During this period, for example, numerous workers were poached by other local firms and even rival breweries. Unable to tolerate certain laborious tasks, many other labourers left Stratford's largest employer after a single season or even on doctors' orders. Moreover, dozens of workers were dismissed from the firm for committing various offences, including stealing beer, fighting with co-workers and embezzling the funds which had been entrusted to them during both short periods of employment and long careers. On the other hand, employees occasionally abandoned their brewery posts due to low wages or simply a desire to better themselves.

Despite these defections among Flower & Sons' workers, labour turnover at the brewery rarely exceeded 40 per cent a year, a figure generally regarded as low by industrial relations scholars.[8] Though this may appear to minimise some of the findings presented in this study, the intention was not to depict an excessive number of terminations, only to describe the dynamics of brewery labour relations more realistically and contest the static nature of workforces as they have appeared in past histories of the

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[8]Slichter, *The Turnover of Factory Labour*, pp. 17-22.

trade. Moreover, that some workers remained loyal to their employers for a number of decades cannot be refuted. The fact that this can be attributed to a common managerial style, however, is open to question. Low turnover in various departments of the trade, as the evidence gathered here demonstrates, may not have resulted solely from paternalist managerial strategies, the implementation of which undoubtedly varied with each firm, if not each generation of managers.

In spite of such variations, most brewery proprietors, like Flower & Sons' owners, retained their benevolent managerial practices into the twentieth century, usually due to a lack of alternative labour relations strategies. Arguably, this particular form of labour management, traditionally associated with the landed aristocracy, suited brewers who increasingly retired to country estates after amassing considerable wealth. More importantly, though not every employee always responded favourably to such methods of labour relations, paternalism would have been familiar to many agricultural workers joining brewery workforces during these years. The general organisation of the work process would also, in many cases, have been familiar.

Not all institutions in an urban industrial community ran according to strict time schedules. Although most brewery proprietors may have adorned their plants with clocks and sounded steam whistles on the hour, the idea of organising work along such precise lines in the mid-nineteenth century was regarded as impractical by many brewers given the state of brewing technology. For example, prior to the introduction of the refrigerator, brewing in Stratford was carried out only in the autumn, winter and early spring, for higher temperatures brought about uncontrollable fermentations which threatened to spoil entire brews. Records reveal the difficulties Flower & Sons' brewers faced as

temperatures increased, and, not surprisingly, most recorded daily temperatures in the margins of their brewing journals. These ledgers also confirm a reduction in the number of brewings as summer approached; though having brewed approximately thirty times each month in winter, the firm often ceased production entirely in summer. In 1870, like many of their competitors, including Youngers, Whitbreads and hundreds of smaller breweries, Flower & Sons rarely brewed between June and September.

Besides permitting brewers to control temperatures more carefully, artificial refrigeration shortened the brewing process. Work days in breweries were considerably longer and, consequently, more dangerous in a pre-refrigeration age. Brewers often had no alternative but to wait for a brew to cool naturally. As a result, exact brewing times varied with the season and existing weather conditions. Many labourers regularly worked twelve-hour days; brewers' hours were often longer. In a section of his wife's diary, Charles Flower perhaps best summarises these marathon brewing sessions which often ended at midnight or early the next morning, occasionally only hours before the brewing process was again to commence.

Breweries, however, were some of the first manufactories to introduce refrigeration technology, thus permitting brewers to free the production process from climatic influences. According to contemporaries, Flower & Sons was revolutionary among English brewers in their application of mechanical refrigeration to brewing. During these years, the *Illustrated Midland News* provided the firm with perhaps its most glowing commendation. According to the journal's writers, 'many of the improvements in the manufacture of beer which are now used throughout the country owe their origin to the

members of the firm.'[9] A degree of legitimacy, however, was lent to such testimony by Dr B. H. Paul, an expert on refrigeration who, in the 1860s, regularly reported on the new technology in the *Quarterly Journal of Science*. Paul regarded Flowers as one of the few English brewers, along with Messrs Truman, Hanbury, Buxton & Co., to have taken advantage of the new technology.[10]

Given these favourable accounts, one would expect the difficulties of summer brewing to have been overcome by Flower & Sons in the decades immediately following the firm's decision to purchase refrigeration technology. Instead, the firm did not brew between May and September throughout the 1880s. The same seasonal fluctuations characterised production for most of the 1890s. Although eventually having overcome the difficulties associated with summer brewing, Flower & Sons' brewing capacity still exceeded the demand for their product. As a result, the firm, like other provincial breweries, would continue to brew in cooler months, when conditions favoured the production of high-quality light ales. Only in the late 1890s does the brewery appear to have regularly carried out successful summer brewings.

By the end of the Victorian period, brewing appears to have been carried out all the year round in many breweries throughout England. Agricultural production, however, had been in decline for at least the last two decades of the nineteenth century as cheaper wheat, for example, began to be imported from abroad. Consequently, this was also a period of transition on many rural estates. Farmers in the central Midlands, known to revert 'from grass to grain and back again', depending on prices, government policies and weather conditions, had converted much of their land back to pasture by the end of the

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[9]*Stratford Herald*, 28 January 1870.

nineteenth century and, consequently, hired fewer labourers than they had in the past.[11] During the late decades of the nineteenth century, however, several brewers were also prepared to offer full-time employment to those workers who previously came to their breweries only seasonally. Given the late-nineteenth-century decline of rural employment in Warwickshire, and especially those parishes neighbouring Stratford, a large number of labourers previously employed only seasonally at Flower & Sons also joined the firm's full-time staff.

Census figures returned in the last decade of the nineteenth century reveal a dramatic decline in the populations of the rural parishes surrounding Stratford. More importantly, the cohort comprising individuals in their thirties had become relatively small in comparison to those of all other age groups. According to the *Stratford Herald*'s agricultural correspondent, young persons appeared more willing to 'starve in the city than live in comfort on the farm'.[12] On the contrary, rather than starve, many had been offered steady employment and a competitive wage in industries like brewing. Moreover, unlike many of their contemporaries, labourers entering breweries faced familiar environments which made for an easy transition from rural to urban employment. Perhaps this, rather than the lure of paternalism, also goes some way towards explaining the long tenures of certain workers associated with the trade. That the former explanation is rarely considered in histories of the brewing industry is not surprising, however, given that the experiences of workers have only rarely figured in historical accounts of the trade.

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[10]Paul, 'The Artificial Production of Ice and Cold,' p. 10.
[11]J. Thirsk, *Agricultural Regions and Agrarian History in England* (1987), p. 13.
[12]*Stratford Herald*, 1 January 1897.

Appendices

Tables 1a-m: Agency Sales of Cask Ale (to nearest pound), 1870-1914

1a) Home Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	-*	1879	45,838	1888	28,351	1897	53,694	1906	81,903
1871	-	1880	45,066	1889	32,464	1898	60,269	1907	80,169
1872	-	1881	42,714	1890	31,855	1899	66,705	1908	76,404
1873	-	1882	41,002	1891	32,493	1900	66,643	1909	75,099
1874	44,448	1883	39,307	1892	33,473	1901	68,380	1910	73,412
1875	47,558	1884	36,385	1893	33,160	1902	72,865	1911	67,762
1876	50,492	1885	34,510	1894	31,068	1903	75,780	1912	68,195
1877	55,847	1886	27,219	1895	31,884	1904	76,974	1913	69,098
1878	55,666	1887	26,989	1896	38,781	1905	74,834	1914	63,905

*no figures available

1b) Rail Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	-*	1879	49,123	1888	26,118	1897	18,155	1906	11,347
1871	-	1880	45,782	1889	21,983	1898	15,313	1907	10,967
1872	-	1881	40,331	1890	21,739	1899	17,017	1908	10,413
1873	-	1882	40,145	1891	19,651	1900	16,294	1909	10,046
1874	23,294	1883	37,026	1892	19,205	1901	14,398	1910	10,721
1875	75,257	1884	37,513	1893	17,964	1902	14,466	1911	12,840
1876	48,823	1885	36,500	1894	16,081	1903	15,086	1912	12,670
1877	57,488	1886	32,576	1895	19,804	1904	14,520	1913	13,198
1878	66,101	1887	29,883	1896	18,409	1905	13,343	1914	12,806

*no figures available

1c) London Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	19,281	1879	39,820	1888	50,132	1897	60,278	1906	47,998
1871	20,875	1880	41,681	1889	53,669	1898	69,868	1907	44,949
1872	22,374	1881	41,705	1890	45,275	1899	70,600	1908	40,836
1873	24,693	1882	39,336	1891	44,034	1900	72,160	1909	43,101
1874	27,648	1883	39,110	1892	45,287	1901	73,802	1910	43,274
1875	32,977	1884	38,976	1893	43,030	1902	71,829	1911	45,441
1876	34,314	1885	37,466	1894	41,347	1903	64,635	1912	45,021
1877	37,343	1886	42,078	1895	43,888	1904	56,499	1913	43,138
1878	41,088	1887	42,301	1896	49,611	1905	53,134	1914	41,488

1d) Leamington Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	16,086	1879	16,712	1888	12,709	1897	26,798	1906	38,391
1871	16,227	1880	16,448	1889	14,844	1898	30,281	1907	38,813
1872	18,002	1881	15,745	1890	15,693	1899	31,759	1908	38,213
1873	18,592	1882	15,583	1891	15,983	1900	33,246	1909	36,918
1874	20,075	1883	16,299	1892	17,080	1901	34,332	1910	35,768
1875	21,617	1884	16,230	1893	16,785	1902	36,319	1911	38,743
1876	22,650	1885	15,318	1894	16,933	1903	35,609	1912	39,495
1877	21,846	1886	13,670	1895	18,918	1904	35,062	1913	40,950
1878	22,221	1887	13,386	1896	20,145	1905	35,766	1914	39,211

1e) Birmingham Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	13,191	1879	21,106	1888	24,103	1897	31,494	1906	23,581
1871	12,598	1880	20,786	1889	28,498	1898	32,362	1907	21,206
1872	17,380	1881	20,864	1890	28,528	1899	33,686	1908	19,834
1873	22,661	1882	21,243	1891	28,705	1900	34,635	1909	19,052
1874	23,294	1883	21,643	1892	28,617	1901	32,878	1910	18,257
1875	26,060	1884	21,262	1893	27,229	1902	30,320	1911	19,528
1876	22,098	1885	21,140	1894	25,240	1903	28,521	1912	20,534
1877	23,876	1886	20,028	1895	25,072	1904	25,866	1913	21,447
1878	28,138	1887	20,085	1896	26,523	1905	24,913	1914	19,716

1f) Cheltenham Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	7022	1879	10,804	1888	14,369	1897	22,162	1906	31,934
1871	6826	1880	11,177	1889	15,848	1898	23,268	1907	32,710
1872	8317	1881	11,059	1890	15,944	1899	24,421	1908	32,497
1873	9242	1882	9901	1891	15,270	1900	23,874	1909	32,508
1874	9034	1883	11,044	1892	16,270	1901	26,094	1910	32,048
1875	10,200	1884	12,207	1893	17,754	1902	26,807	1911	30,187
1876	9765	1885	12,750	1894	17,444	1903	28,907	1912	29,480
1877	11,898	1886	12,328	1895	17,646	1904	30,441	1913	29,762
1878	13,729	1887	13,481	1896	17,921	1905	28,772	1914	29,909

1g) Liverpool Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	-	1874	1356	1878	1681	1882	1846	1886	2884
1871	-	1875	1613	1879	1310	1883	1767	1887	3470
1872	1355*	1876	1719	1880	1334	1884	1120	1888	1395
1873	1705	1877	2771	1881	1563	1885	1484	1889	-

*office opened in 1872 and closed in August 1888.

1h) Wolverhampton Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	1502	1879	4145	1888	6061	1897	4773	1906	5036
1871	1482	1880	5337	1889	6178	1898	4988	1907	4745
1872	2142	1881	5588	1890	4597	1899	4871	1908	4610
1873	2541	1882	7163	1891	3967	1900	4849	1909	4862
1874	2784	1883	7764	1892	3793	1901	5292	1910	5398
1875	4540	1884	7996	1893	3555	1902	5397	1911	-*
1876	4635	1885	7771	1894	3146	1903	4906	1912	-
1877	5338	1886	7476	1895	3873	1904	4549	1913	-
1878	5518	1887	6236	1896	5052	1905	4692	1914	-

*no figures available.

1i) Manchester Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1881	2319*	1883	3144	1885	3131	1887	3031	1889	1680
1882	3167	1884	3125	1886	2950	1888	2716	1890	-

*office opened in 1881 and closed in October 1889.

1j) Dublin Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1874	1568	1878	-	1882	1132	1886	661	1890	452
1875	1685	1879	-	1883	859	1887	710	1891	364
1876	1872	1880	-	1884	581	1888	597	1892	254†
1877	-*	1881	1115	1885	617	1889	471	1893	-

*no figures available.
†office closed in 1892.

1k) Castlebar, Belfast, Bristol and Kidderminster Trades

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1879	-	1883	560°	1887	277	1891	1121	1895	669
1880	76*	1884	46	1888	703‡	1892	1235	1896	669
1881	561	1885	-	1889	1105	1893	1022	1897	545
1882	545	1886	363†	1890	1010	1894	621	1898	728±

*Castlebar sales commence (office closed in December 1882).
°Belfast office opens (office closed in May the following year).
†Bristol office opened in April 1886 and closed in April 1888.
‡Includes £46 of Bristol agency's sales; Kidderminster office opened in February 1888.
±Kidderminster office closed in December 1898.

1l) Oxford Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1905	-	1907	914	1909	1014	1911	1386	1913	2055
1906	772*	1908	970	1910	1060	1912	1653	1914	2328

*office opened in April 1906.

1m) Malvern Trade

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1905	-	1907	2125	1909	1971	1911	2622	1913	3309
1906	1548*	1908	1833	1910	2128	1912	2899	1914	3497

*office opened in April 1906.
Sources: SBTRO, DR 227/3, 8-11 and 18

Table 2: Flower & Sons' Profits (annual averages to nearest pound), 1888-1914

Year	*Net Profit (£)**	*Year*	*Net Profit*	*Year*	*Net Profit*
1888	22,973	1897	27,133	1906	21,526†
1889	15,535	1898	27,404	1907	20,658†
1890	19,980	1899	30,376	1908	15,065
1891	12,740	1900	24,835	1909	16,575
1892	12,177	1901	20,621	1910	18,723
1893	10,620	1902	17,826	1911	25,430
1894	9,815	1903	10,110	1912	25,479
1895	15,972	1904	6,548	1913	25,871
1896	23,712	1905	20,112†	1914	28,011

*after deducting debenture interest.
†before providing for London Special Losses.
Sources: SBTRO, DR 227/14 and 104

Table 3: Excise costs (to nearest pound), 1870-1914

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	1250	1879	2424	1888	24,052	1897	35,007	1906	43,568
1871	1147	1880	11,222	1889	26,310	1898	38,348	1907	42,699
1872	1483	1881	28,897	1890	25,003	1899	39,696	1908	40,251
1873	2861	1882	29,927	1891	23,915	1900	43,486	1909	40,178
1874	4561	1883	26,112	1892	24,621	1901	45,237	1910	41,929
1875	4079	1884	24,839	1893	24,241	1902	45,917	1911	44,686
1876	2540	1885	25,108	1894	23,739	1903	44,811	1912	48,239
1877	3411	1886	24,092	1895	25,951	1904	43,319	1913	49,010
1878	5119	1887	23,673	1896	28,575	1905	41,721	1914	53,076

Sources: SBTRO, DR 227/8-11

Table 4: Flower & Sons' licensed properties (from existing deeds)

Licensed premises are identified in present day counties and are in Warwickshire unless otherwise indicated.

1858
White Lion Inn, Stratford
1859
Golden Lion Inn, Stratford
1863
Rose & Crown, Stratford
Bull's Head, Bidford
1864
Green Dragon, Stratford
Blue Bell, Henley-in-Arden
Blue Bull, Chipping Norton, Oxfordshire
1865
Crown Hotel, Llanrwst, Denbighs.
1867
Lord Nelson, Stratford
1868
Lygon Arms, Feckenham, Worcs.
1876
Bowling Green Inn, Broom
Crown Inn, Blockley, Worcs.
1877
Dun Cow, Coventry
1878
Croon Inn, Claverdon
1879
The George Inn, Winchcombe, Gloucs.
1880
Falstaff, Stratford
Nelson Inn, Alcester
Norfolk Hotel, Shoreditch, London
Coach and Horses, Broadway, Worcs.
Golden Cross, Harvington, Worcs.
Harrow Inn, Shipston-on-Stour
1881
George Inn, Henley-in-Arden
Shakespeare, Welford
Austin House, Broadway, Worcs.
Edgbaston Hotel, Llandudno, Wales
1882
Red Cow, Wolverhampton, Staffs.
The Barrel Inn, Tewkesbury, Gloucs.
The Cross Hands, Teddington, Worcs.
1883
The Oddfellows Arms, Badgworth, Gloucs.
1884
Crown Inn, Kemerton, Gloucs.
Garrick Hotel, Hereford, Herefords.
1885
Cross Keys, Stratford
Royal Hotel, Bath, Somerset
Railway Hotel, Evesham, Worcs.
1886
Craven Arms, Coventry
Beerhouse in Moreton Morrell
The Royal Hotel, Southampton, Hants.
1887
Exchange Inn, Alveston
Pub in Broadgate, Coventry
Race Horse Inn, Hereford, Herefords.
Pub in Liverpool, Lancs.
Crown Hotel, Worcester, Worcs.
Bell Hotel, Worcester, Worcs.
1888
Bird in the Hand, Beaudesert
Albion Hotel, Manchester, Lancs.
White Hart Inn, Moreton-in-Marsh, Gloucs.
Golden Cross Inn, Harvington, Worcs.
Three Tuns Royal Hotel, Pershore, Worcs.
New Hotel, Weedon, Northants.
Savernake Forest Hotel, Wilts.
The Bear Hotel, Maidenhead
The Shakespeare Inn, Harvington, Worcs.
The Old Stags Head, Wellesbourne
The Stag & Pheasant, Hartshill
The Swan Inn, Broadway, Worcs.
The Teddington, Tewksbury, Gloucs.
Three Tuns, Pershore, Worcs.
The White Hart, Ipsley
White Lion, Brighton, Sussex
1889
Shoulder of Mutton, Stratford
The Black Swan, Stratford
Unicorn Inn, Stratford
Bull's Head, Barston
Wings and Spur, Ullenhall
Fleece Hotel, Witney, Oxfordshire
1890
Talbot Inn, Stratford
Golden Cross, Bearley
Park Tavern, Warwick
Peacock, Wellesbourne
The Masons Arms, Bristol, Somerset
1891
Globe Inn, Stratford
Bears Head Hotel, Newtown, Mon.
1892
Mason's Arms, Stratford
The Roebuck, Alcester
Carpenter's Arms, Kineton
George & Dragon, Chipping Campden, Gloucs.

Table 4 (cont'd)

1893	***1897 (cont'd)***
Queen's Head, Oswestry, Shropshire	Cross Guns, Beaudesert
Fox & Goose Hotel, Redditch, Worcs.	The Engine Inn, Bedworth
1894	White Horse, Bedworth
Hare and Hounds, Chilvers Coton	Rose Inn, Hartshill
Abbey Hotel, Kenilworth	The Castle, Bedworth
Half Moon, Nuneaton	Prince of Wales, Nuneaton
Crown Hotel, Warwick	Bull Hotel, Nuneaton
Gibbon's Hotel, Torquay, Devon	Bell Inn, Tamworth
Belle Vue Hotel, Cheltenham, Gloucs.	The Castle Arms, Warwick
Bull Inn, Witherley, Leicestershire	The Bell Garden, Welford
Belgrave Hotel, Balsall Heath	The Masons Arms, Wilmcote
Midland Hotel, Worcester, Worcs.	Mason's Arms, Long Marston, Gloucs.
Pheasant Hotel, Malvern, Worcs.	Red Lion Inn, Blockley, Worcs.
1895	Labour in Vain, Oldswinford, Worcs.
Mother Huff Cap Inn, Great Alne	Railway Inn, Ripple, Worcs.
The Boot Inn, Aston Cantlow	***1898***
Crown Inn, Harbury	Boot Inn, Studley
The Two Boats, Long Itchington	White Lion, Warwick
The Farmers Arms, Apperley, Gloucs.	Nevill Arms, Inkberrow, Worcs.
Boot Inn, Flyford Flavell, Worcs.	***1899***
Wheelbarrow and Castle Inn, Radford, Worcs.	Boot Inn, Bidford
1896	Greswolde Arms Hotel, Knowle
Old Red Lion, Stratford	Bird in Hand, Newbold
Red Lion, Barford	***1900***
Summerland Tavern, Coventry	The Horse Shoe, Bourton-on-the-Hill, Gloucs.
Rose and Crown, Coventry	Central Inn, Cheltenham, Gloucs.
The Wheatsheaf, Foleshill	Rose Garden, Holmer, Herefords.
Plough Inn, Minworth	***1901***
Off-licence in Abbey Street, Rugby	The Stratford Arms, Stratford
Garrick's Head, Cheltenham, Gloucs.	Peacock Inn, Rugby
Lamb Hotel, Cheltenham, Gloucs.	Emscote Tavern, Warwick (cask trade only)
Nag's Head, Longhope, Gloucs.	Royal Hotel, Cheltenham, Gloucs.
Duke of York Hotel, Tewkesbury, Gloucs.	***1903***
The Bowling Green Inn, Hereford, Herefords.	Greyhound Inn, Stow-on-the-Wold, Gloucs.
Lion Inn, Claverley, Shropshire	***1904***
White Lion Inn, Astwood Bank, Worcs.	Bell Inn, Willersey, Gloucs.
Red Lion Inn, Shipston-on-Stour	***1905***
Star Hotel, Upton-on-Severn, Worcs.	Prince of Wales, Cheltenham, Gloucs.
Red Cow, Upton-on-Severn, Worcs.	Apple Tree Inn, Woodmancote, Gloucs.
Great Western Hotel, Worcester, Worcs.	***1906***
1897	Stags Head, Wellesbourne
Phoenix, Stratford	Star Beerhouse, Bourton-on-the-Hill, Gloucs.
Dog & Partridge, Alcester	Plough Beerhouse, Shipston-on-Stour
The Lord Nelson, Ansley	

Sources: SBTRO, DR 325/991-1177

Table 5: Exports, 1874-1908 (in casks)

Year	*Amount*	*Year*	*Amount*
1874	1089 Hhds, 15 Brls and 356 Kils	1885	350 Hhds and 10 Kils
1875	621 Hhds and 267 Kils	1886	217 Hhds and 12 Kils
1876	732 Hhds, 10 Brls and 59 Kils	1887	351 Hhds and 12 Kils
1877	550 Hhds	1888	-†
1878	494 Hhds	1891	88 Hhds, 3 Brls and 6 Kils
1879	273 Hhds	1892	50 Hhds
1880	395 Hhds, 16 Brls and 130 Kils	1893	49 Hhds and 24 Kils
1881	237 Hhds, 20 Brls and 150 Kils	1894	61 Hhds
1882	279 Hhds and 30 Kils	1895	12 Hhds
1883	312 Hhds and 125 Kils	1896*	25 Hhds
1884	264 Hhds and 62 Kils	1908	1 Firkin

*no shipments after 1896 until 1908.
†1888, 1889 and 1890 sales figures incomplete.
Source: SBTRO, DR 227/44

Table 6: Schedule of Properties, 7 April 1897

6a) Freehold Licenced Properties

Name of Property	*Location*	*Type of License*	*Value (in pounds)*
The Falstaff	Stratford	Full	3000
One Elm	Stratford	Full	2500
The Nelson	Stratford	Full	1150
The Globe	Stratford	Full	2000
Golden Lion Hotel	Stratford	Full	2000
Old Red Lion	Stratford	Full	2400
The Swan's Nest	Stratford	Full	7000
The Black Swan	Stratford	Full	1600
The Masons Arms	Stratford	Full	1750
The Talbot	Stratford	Beerhouse	1000
Crosskeys	Stratford	Full	950
Plymouth Arms	Stratford	Full	2500
Green Dragon	Stratford	Full	1620
Crown Hotel	Tiddington	Full	3000
Exchange Inn	Alveston	Full	1800
The Red Lion	Barford	Full	3000
The Fox	Loxley	Full	800
The Peacock	Wellesbourne	Full	1600
Black Horse	Moreton Morrell	Beerhouse	1150
Carpenters Arms	Kindon	Beerhouse	950
The Bell	Welford	Full	1300
The Shakespeare	Welford	Beerhouse	950
Shoulder of Mutton	Broad Marston	Beerhouse	700
The Ivy Inn	North Littleton	Beerhouse	750
The Bulls Head	Bidford	Beerhouse	850
The Boot	Bidford	Full	1150
Whitehorse	Lowsonford	Full	900
The Bell	Tamworth	Full	3500
Bird in Hand	Beaudesert	Full	1600
Railway Hotel	Evesham	Full	5500
Royal Oak	Evesham	Full	2250
Three Tuns	Pershore	Full	3500
The Plough	Pershore	Full	1800
Black Horse	Pershore	Beerhouse	1250
Butchers Arms	Pershore	Beerhouse	800
Wheatsheaf	Badsey	Beerhouse	2000
Coach and Horses	Broadway	Full	2000
Queens Head	Sedgebarrow	Full	1650
Queens Head	Iron Cross	Full	1850
Wheelbarrow and Castle	Radford	Full	1500
The Boot	Flyford Flavel	Full	2400
Wings Arms	Mickleton	Full	1600
Milking Pail	Mickleton	Beerhouse	700
George and Dragon	Chipping Campden	Full	950
The Crown	Blockley	Full	2500
Red Lion	Blockley	Beerhouse	1000
Great Western Arms	Blockley	Beerhouse	1800
Star and Garter	Crabbs Cross	Full	3500
White Lion	Astwood Bank	Full	2500
The Lygon	Feckenham	Full	1200
Bell Hotel	Shipston	Full	2250

Table 6a) cont'd

The Crown	Shipston	Full	1000
Red Lion	Shipston	Beerhouse	700
Harrow Inn	Shipston	Full	1700
Red Lion	Ilmington	Full	1050
The Bell	Armscote	Beerhouse	600
The Gate	Brailes	Full	1250
White Hart	Moreton in Marsh	Full	2000
The Bell	Moreton in Marsh	Full	1600
Blue Boar	Chipping Norton	Full	2500
George Hotel	Winchcombe	Full	2500
Candlewell Brewery	Shipston	Full	1500
Boot Inn	Great Alne	Full	2150
Mother Huff Cap	Great Alne	Full	850
Roebuck	Alcester Heath	Beerhouse	950
Golden Lion	Alcester	Full	950
The Nelson	Alcester	Full	1500
Golden Cross	Bearley	Full	1275
The Bell	Henley in Arden	Full	650
George and Dragon	Henley in Arden	Full	600
Cross Guns	Henley in Arden	Full	500
Red Lion	Henley in Arden	Full	1050
Broom Inn	Broom	Beerhouse	1000
Kings Head	Upton on Severn	Full	1250
Old Crown	Upton on Severn	Full	700
Barley Mow	Upton on Severn	Full	550
Star Hotel	Upton on Severn	Full	1500
Red Cow	Upton on Severn	Full	800
Eagle Inn	Leamington	Full	2600
New Inn	Leamington	Beerhouse	1500
Greyhound	Leamington	Full	3500
Jolly Brewer	Leamington	Full	2000
White Hart	Leamington	Full	2500
Queens Arms	Leamington	Full	2300
Half Moon	Leamington	Full	1000
The Vine	Warwick	Full	2300
The Nelson	Warwick	Full	2450
Nags Head	Warwick	Full	1500
Antelope	Warwick	Full	2500
Queens Head	Warwick	Full	3300
Crown Hotel	Warwick	Full	4000
Castle Tavern	Warwick	Full	3500
Abbey Hotel	Kenilworth	Full	8000
Dun Cow	Coventry	Full	3500
City Arms	Coventry	Full	3500
The Grapes	Coventry	Full	4000
Summerland Tavern	Coventry	Full	3500
Craven Arms	Coventry	Full	1500
Rose and Crown	Coventry	Full	3500
Wheatsheaf	Coventry	Full	3700
Two Boats	Long Itchington	Beerhouse	1200
Shakespeare	Harbury	Beerhouse	900
The Crown	Harbury	Full	1000
The Peacock	Rugby	Full	4500
Abbey Street Beerhouse	Rugby	Offlicense	1500

Table 6a) cont'd

Black Dog	Southam	Full	1200
Victoria St Beerhouse	Rugby	Offlicense	1200
Bulls Head	Brinklow	Full	1500
Robin Hood	Cheltenham	Beerhouse	400
Cambridge Inn	Cheltenham	Beerhouse	1200
Garricks Head	Cheltenham	Beerhouse	2000
Morvend St Offlicense	Leckhampton	Beerhouse	1000
British Union	Cheltenham	Full	3000
Lypiatt St Offlicense	Cheltenham	Beerhouse	500
London Inn	Charlton Kings	Full	4000
Oddfellows	Cheltenham	Beerhouse	1100
Farmers Arms	Apperley	Beerhouse	2000
Barrel Inn	Tewkesbury	Full	1600
Duke of York	Tewkesbury	Full	5000
Cross Hands	Teddington	Full	1700
Crown Inn	Kenerton	Beerhouse	850
Ale and Porter Stores	Twyning	Beerhouse	1200
Widden St Offlicense	Gloucester	Beerhouse	750
Plough Inn	Newent	Beerhouse	1250
Nags Head	Gloucester	Beerhouse	450
Bowling Green Inn	Hereford	Full	1600
Fruiterers Arms	Birmingham	Full	3250
The Belgrave	Birmingham	Full	12000
Bloomsbury	Wolverhampton	Full	4700
The Plough	Mineworth	Full	1900
Crab Mill	Old Swinford	Full	2400
Navigation	West Bromwich	Beerhouse	1200
Spring Cottage	West Bromwich	Beerhouse	900
Half Moon	Kidderminster	Full	3000
Feathers	Ledbury	Full	3500
Brewery Stores	Leamington	Full	4500
Engine	Bedworth	Beerhouse	1500
Railway Hotel	Ripple	Full	1600
Brewery Stores	Cheltenham	Full	2000
Teddington Inn	Tewkesbury	Beerhouse	650
Total			282,495

6b) Leasehold Licensed and Unlicensed Properties:

Name of Property	***Location***	***Type of License***	***Value (in pounds)***
The Unicorn	Stratford	Full	1500
Railway Inn	Stratford	Full	175
The Bell	Shottery	Full	175
Cottage of Content	Barton	Full	100
Kings Head	Aston Cantlow	Full	450
Wings and Spur	Ullenhall	Full	550
Royal Oak	Hockley Heath	Full	750
American Tavern	Evesham	Beerhouse	500
Golden Cross	Harvington	Full	500
Red Hart	Kington	Full	250
The Angel	Broad Campden	Full	150
Greyhound	Redditch	Full	1000

Table 6b) cont'd

The Wharf	Ilmington	Full	150
Greyhound	Stow on the Wold	Beerhouse	500
Cross Keys	Llandudno	Full	2300
Blue Boar	Grafton	Full	50
Builders Arms	London	Beerhouse	920
Prince Albert	London	Beerhouse	4000
Dover Castle	London	Beerhouse	1400
Nell Gwynne	London	Full	1500
The Pheasant	London	Beerhouse	350
Thornbury Castle	London	Beerhouse	560
Essex Head	London	Full	4800
Queens Arms	London	Beerhouse	304
The Vaults	Leamington	Full	400
Brunswick	Leamington	Beerhouse	1800
Sword and Mace	Coventry	Full	700
The Anchor	Bedworth	Beerhouse	no value
Bulls Head	Barston	Full	350
Kings Arms	Heronfield	Full	400
Salisbury Arms	Cheltenham	Full	800
Stout House Inn	Cheltenham	Beerhouse	700
Central Inn	Cheltenham	Beerhouse	225
Adam and Eve	Cheltenham	Beerhouse	700
Royal Oak	Prestbury	Full	400
Farmers Arms	Gotherington	Full	no value
The Bell	Eckington	Full	200
Racehorse	Hereford	Full	200
Rose Gardens Inn	Holmer	Full	400
Criterion Restaurant	Cheltenham	Beer and Wine	600
Albion Hotel	Birmingham	Full	1500
White Horse Cellars	Birmingham	Full	5750
The Leopard	Birmingham	Full	250
Turf Inn	Birmingham	Beerhouse	300
Old Nelson	Birmingham	Beerhouse	1100
Grand Turk	Birmingham	Beerhouse	1450
The Fox	Birmingham	Full	2870
Wings Head	Birmingham	Full	1650
The Stores	Balsall Heath	Full	400
Railway Inn	Moseley	Full	5500
Travellers Rest	Birmingham	Beerhouse	2500
The Stores	Birmingham	Beerhouse	12000
Total			65,519

6c) Yearly Tenancies

Name of Property	*Location*	*Type of License*	*Value (in pounds)*
The Phoenix	Stratford	Beerhouse	200
The Sun	Aston Cantlow	Full	200
Fox and Hounds	Great Walford	Full	250
Wings Head	Bishops Cleeve	Full	200
White Hart	Droitwich	Full	500
Total			1,350

Total (all properties)	349,364

Source: SBTRO, DR 227/170

Table 7: Number of Brewings (per month) in 1881, 1890, 1899 and 1908/9

7a) 1881

Month	***Brewings***	***Month***	***Brewings***	***Month***	***Brewings***
January	22	May	2	September	22
February	23	June	-	October	25
March	30	July	-	November	26
April	25	August	9	December	28

7b) 1890

Month	***Brewings***	***Month***	***Brewings***	***Month***	***Brewings***
January	23	May	-	September	9
February	22	June	-	October	24
March	23	July	-	November	21
April	15	August	1	December	19

7c) 1898

Month	*Brewings*	*Month*	*Brewings*	*Month*	*Brewings*
January	31	May	13	September	29
February	28	June	32	October	30
March	29	July	31	November	29
April	25	August	31	December	28

7d) 1908/9

Month	*Brewings*	*Month*	*Brewings*	*Month*	*Brewings*
June	28	October	27	February	11
July	33	November	26	March	25
August	30	December	25	April	27
September	27	January	25	May	26

7e) Number of barrels brewed, 1881, 1890, 1898 and 1908/9

Year	*Number*	*Year*	*Number*
1881	35,616	1898	56,280
1890	26,376*	1908/9	52,080

*The figure does not indicate a downward trend, only a single poor year, as 56,448 barrels were brewed the following year (1891).
Sources: SBTRO, DR 227/206-8

*Table 8: Kendall & Son's Customers, 1900-14**

Name	*Name*
Alton Court Brewery Co. Ltd, Ross-on-Wye, Herefordshire	Duncan Gilmour & Co., Ladybridge Brewery, Sheffield
Ansells Brewery Ltd, Aston, Birmingham	Hickman & Pullen Brewery, Wednesbury
Ashton Gate Brewery Co. Ltd, Bedminster, Bristol	Highgate-Walsall Brewery Co. Ltd, Walsall
Bath Brewery (Oakhill Brewery Co. Ltd ?)	Holt Bros Brewery, Burnham-on-Sea, Somerset
W H Brakspear & Sons Ltd, Henley, Oxfordshire	Hook Norton Brewery Co. Ltd
Bristol United Breweries Ltd	Hunt Edmunds & Co. Ltd, Banbury
Brown & Co., Shakespeare Brewery, Redditch	Lichfield Brewery Co. Ltd
Cheltenham Original Brewery Co. Ltd	Lion Brewery Ltd, Chippenham, Wiltshire
City Brewery, Lichfield	Lockwoods Brewery Co., Northfield, Birmingham
Courage & Co. Brewery	Mitchells & Butlers Ltd, Birmingham
J Davenport & Sons Brewery Ltd, Birmingham	E E Palmer, Donnington Brewery, Newbury
J Elworthy Ltd, Steam Brewery, Kettering	P Phipps & Co. Ltd, Northampton
Flower & Sons Brewery, Stratford	Portsmouth United Breweries
E K & H Fordham, Ashwell Brewery, Nr Baldock	Rock Brewery Ltd, Brighton
Frome United Breweries	Royal Well Brewery Co., Malvern
Gibbs, Mew & Co. Ltd, Salisbury, Wiltshire	Smithers & Sons Ltd, North St Brewery, Brighton

*As recorded in the firm's sales ledgers.
Sources: SBTRO, DR 197/12-3

Table 9: Salesmen's Journeys in Flower & Sons' Home District, 1910

9a) A. E. Fagge's Schedule

Day	***Destination***	***Day***	***Destination***
Week One:		***Week Three***:	
Monday	Henley	Monday	Henley
Tuesday	Astwood Bank	Tuesday	Knowle
Wednesday	Alveston	Wednesday	Bromsgrove
Thursday	Alcester	Thursday	Bromsgrove
Friday	Offices and Market	Friday	Office and Market
Week Two:		***Week Four***:	
Monday	Broadway	Monday	Feckenham
Tuesday	Broadway	Tuesday	Headless Cross
Wednesday	Redditch	Wednesday	Redditch
Thursday	Snitterfield	Thursday	Wootton
Friday	Office and Market	Friday	Office and Market

9b) C. F. Horsman's Schedule

Day	***Destination***	***Day***	***Destination***
Week One:		***Week Three***:	
Monday	Aston Cantlow	Monday	Aston Cantlow
Tuesday	Evesham	Tuesday	Evesham
Wednesday	Offenham	Wednesday	Tysoe
Thursday	Bidford	Thursday	Dumbleton
Friday	Offices and Market	Friday	Office and Market
Week Two:		***Week Four***:	
Monday	Pershore	Monday	Eatington
Tuesday	Comberton	Tuesday	Bearley
Wednesday	Fladbury	Wednesday	Pebworth
Thursday	Harvington	Thursday	Grafton
Friday	Office and Market	Friday	Office and Market

9c) A. E. Amphlett's Schedule

Day	*Destination*	*Day*	*Destination*
Week One:		***Week Three***:	
Monday	Barford	Monday	Barford
Tuesday	Gayton	Tuesday	Shirley
Wednesday	Kingswood	Wednesday	Broom
Thursday	Lapworth	Thursday	Loxley
Friday	Offices and Market	Friday	Office and Market
Week Two:		***Week Four***:	
Monday	Tamworth	Monday	Cladswell
Tuesday	Badsey	Tuesday	Welford
Wednesday	Quinton	Wednesday	Studley
Thursday	Mickleton	Thursday	Washford
Friday	Office and Market	Friday	Office and Market

9d) W. Page's Schedule

Day	*Destination*	*Day*	*Destination*
Week One:		***Week Three***:	
Monday	Wellesbourne	Monday	Wellesbourne
Tuesday	Langley	Tuesday	Moreton
Wednesday	Shrewley	Wednesday	Flyford
Thursday	Honnington	Thursday	Brailes
Friday	Offices and Market	Friday	Office and Market
Week Two:		***Week Four***:	
Monday	Hatton	Monday	Lighthorne
Tuesday	Campden	Tuesday	Campden
Wednesday	Blockley	Wednesday	Blockley
Thursday	Ilmington	Thursday	Blackwell
Friday	Office and Market	Friday	Office and Market

9e) H. Carter's Schedule

Day	*Destination*	*Day*	*Destination*
Week One:		***Week Three***:	
Monday	Newbold	Monday	Free Pubs
Tuesday	Stratford	Tuesday	Stratford
Wednesday	Billesley	Wednesday	Cleeve
Thursday	Alderminster	Thursday	Lenches
Friday	Offices and Market	Friday	Office and Market
Week Two:		***Week Four***:	
Monday	Free Pubs	Monday	Free Pubs
Tuesday	Stratford	Tuesday	Stratford
Wednesday	Honeybourne	Wednesday	Arrow
Thursday	Weston Subedge	Thursday	Pillerton
Friday	Office and Market	Friday	Office and Market

9f) H. Hinde's Schedule

Day	*Destination*	*Day*	*Destination*
Week One:		***Week Three***:	
Monday	Stow	Monday	Longborough
Tuesday	Tysoe	Tuesday	Kingham
Wednesday	Office	Wednesday	Office
Thursday	Todenham	Thursday	Stretton
Friday	Stratford	Friday	Brailes
Saturday	Shipston Market	Saturday	Shipston Market
Week Two:		***Week Four***:	
Monday	Moreton	Monday	Moreton
Tuesday	Evenlode	Tuesday	Brailes
Wednesday	Office	Wednesday	Office
Thursday	Long Compton	Thursday	Little Compton
Friday	Shipston	Friday	Shipston
Saturday	Shipston Market	Saturday	Shipston Market

Source: SBTRO, DR 227/160

Table 10: Inventories of Brewery Casks

10a) Flower & Sons' stock of casks, 1 October 1888

Type of cask	*Butts*	*Hhds*	*Brls*	*Kils*	*Firks*	*Pins*
At home full	208	2421	2273	2333	1569	87
Empty	190	3522	5933	4787	2688	246
Out in 1888	187	2986	5718	8750	8048	984
Out in 1887	7	208	301	582	512	33
Out in 1886	-	33	79	172	168	-
Previously	3	130	682	2569	1443	-
Total	595	9300	14,986	19,193	14,428	1350

10b) Burton Brewing Company's stock of casks, 31 December 1871

Type of cask	*Butts*	*Hhds*	*Brls*	*Kils*	*Firks*
Total	2480	11,603	23,516	33,312	4982

Sources: SBTRO, DR 227/118; and BCL, Lee Crowden 1085

Table 11: Workers' Wages (to nearest pound), 1870-1914

11a) Brewery Wages

Year	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*
1870	1951	1879	3312	1888	3150	1897	4773	1906	4267
1871	2063	1880	3344	1889	3484	1898	4899	1907	4143
1872	2491	1881	3230	1890	3673	1899	5002	1908	3896
1873	2835	1882	3256	1891	3604	1900	4886	1909	3795
1874	3153	1883	3286	1892	3770	1901	4764	1910	3778
1875	3502	1884	3245	1893	3704	1902	4737	1911	3894
1876	3368	1885	3214	1894	3783	1903	4642	1912	3849
1877	3499	1886	3316	1895	3866	1904	4530	1913	4029
1878	3786	1887	3194	1896	4211	1905	4268	1914	4381

*11b) Stable Wages**

Year	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*
1870	563	1879	914	1888	769	1897	1007	1906	1068
1871	513	1880	898	1889	844	1898	1053	1907	996
1872	662	1881	882	1890	896	1899	1103	1908	1010
1873	736	1882	897	1891	864	1900	1049	1909	1004
1874	759	1883	902	1892	844	1901	1000	1910	984
1875	817	1884	870	1893	833	1902	939	1911	1000
1876	867	1885	847	1894	821	1903	826	1912	1132
1877	954	1886	813	1895	792	1904	930	1913	1146
1878	973	1887	768	1896	855	1905	960	1914	1327

*includes draymen's wages

11c) Coopers' Wages

Year	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*
1870	613	1879	1261	1888	1936	1897	1727	1906	1180
1871	591	1880	1252	1889	2388	1898	1685	1907	1059
1872	688	1881	1437	1890	2159	1899	1608	1908	927
1873	979	1882	1426	1891	2287	1900	1456	1909	854
1874	804	1883	1168	1892	2368	1901	1402	1910	925
1875	944	1884	1439	1893	2311	1902	1428	1911	1031
1876	992	1885	1519	1894	1938	1903	1304	1912	1003
1877	1001	1886	1586	1895	1866	1904	1167	1913	958
1878	1503	1887	1543	1896	1863	1905	1056	1914	921

11d) Tradesmen's Wages

Year	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*	*Year*	*Wages*
1870	243	1879	496	1888	608	1897	781	1906	641
1871	256	1880	677	1889	660	1898	678	1907	648
1872	227	1881	566	1890	639	1899	767	1908	591
1873	256	1882	576	1891	645	1900	667	1909	728
1874	354	1883	718	1892	658	1901	787	1910	691
1875	330	1884	738	1893	642	1902	647	1911	635
1876	381	1885	761	1894	665	1903	626	1912	658
1877	408	1886	663	1895	687	1904	624	1913	710
1878	508	1887	601	1896	725	1905	639	1914	698

11e) Salaries

Year	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*	*Year*	*Total*
1870	5245	1879	8794	1888	9451	1897	11,780	1906	11,969
1871	5091	1880	9237	1889	9588	1898	11,906	1907	12,317
1872	5483	1881	8563	1890	9335	1899	12,593	1908	12,424
1873	5770	1882	8870	1891	9442	1900	11,390	1909	12,192
1874	7242	1883	8603	1892	9776	1901	11,699	1910	12,859
1875	7416	1884	8723	1893	9719	1902	12,019	1911	13,259
1876	7788	1885	9238	1894	9461	1903	12,010	1912	13,318
1877	8109	1886	9005	1895	9043	1904	11,245	1913	15,478
1878	8632	1887	9284	1896	9610	1905	10,823	1914	15,262

Sources: SBTRO, DR 227/8-11 and 14

Table 12: Inventory and cost of brewery picnic, 18 July 1882

Goods and services	***Cost***		
	£	*s.*	*d.*
249¼ lbs. of Spiced Beef	8	16	8½
94½ lbs. Fresh Rump Beef	3	6	11
4 legs of Mutton	2	5	7½
4 Hams	2	1	7
Side of Veal (66½ lbs.)	2	7	1½
47 lbs. of Suet	1	13	3½
44 lbs. of Dripping	1	2	0
19½ lbs. of Bacon		16	3
30 loaves of Bread		17	6
2 pots of Potatoes		8	0
200 lbs. of Plum Cake	5	0	0
300 Buns	1	12	2
12 gallons of Milk		12	0
100 doz. Gingerade	5	0	0
1 doz. Sodas		1	0
2 lbs. of Cheese		16	8
2 lbs. of Mustard		3	4
Salt			2
6 lbs. of Black Tea		15	0
30 lbs. of Loaf Sugar		10	0
½ gallon of Vinegar		1	0
13 lbs. of Tobacco	2	13	2
1 gross Clay Pipes		8	0
2 doz. Wood Pipes		8	0
6 doz. lights		1	6
3 barrels of Ale		-	
Hire of Tents and Firemen's Wages	5	5	0
Hire of Tea Urns		3	6
6 lbs. of Sweets		3	0
Hire of Town Band	2	0	0
Gateman's Wages		5	0
Prize money	1	0	0
Hire of crockery, viz.: 500 plates, 400 mugs, 30 veg. dishes, 20 large jugs, 30 basins, 18 pie dishes, 17 meat dishes, 50 tumblers 22 tablecloths	2	16	6
Breakages		10	11
3 iron Boilers		1	6
17 doz. knives, 17 doz. forks		19	6
6 doz. mustard spoons, 6 doz. salt spoons		1	6
30 table spoons		1	6
42 yards tablecloths		7	6
3 plated prongs and 1 knife cost		11	0
5 spoons cost			5
Timber		5	0
Cooking, washing up and sundries	3	11	0
Total	£59	19s.	10d.

Source: SBTRO, DR 227/112

Table 13: Fêtes and excursions, 1870-1914

Year	*Destination*	*Year*	*Destination*
1870	Local Picnic (Cole's meadow)	1893	Local Picnic
1871		1894	Local Picnic
1872		1895	Llandudno
1873		1896	Portsmouth
1874	New Brewery Dinner and Picnic	1897	Liverpool
1875	Local Picnic	1898	Blackpool
1876	Local Picnic	1899	Portsmouth
1877	Local Picnic	1900	Blackpool
1878	Local Picnic (Hewin's field)	1901	Garden Party at Hill
1879	Local Picnic	1902	Weymouth
1880	Local Picnic	1903	Blackpool
1881	Annual Treat	1904	Weston super Mare
1882	Picnic at Hill (Flower Residence)	1905	Bournemouth
1883	Local Picnic	1906	Portsmouth
1884	Local Picnic	1907	Llandudno
1885	First rail excursion (Aston Grounds)	1908	Weston super Mare
1886	Birmingham	1909	Warwickshire Agricultural Show
1887	Local Picnic	1910	Blackpool
1888	Local Picnic	1911	Coronation
1889	Local Picnic	1912	Weston super Mare
1890	Local Picnic	1913	Portsmouth
1891	Local Picnic	1914	Llandudno
1892	Royal Show, Warwick		

Sources: SBTRO, DR 227/111-5; and *Stratford Herald.*

Table 14: Labour Turnover at Flower & Sons, 1870-1914

14a) Total turnover in brewery workforce

Year	*Workers*	*Year*	*Workers*	*Year*	*Workers*	*Year*	*Workers*	*Year*	*Workers*
1870	46	1879	51	1888	16	1897	44	1906	15
1871	69	1880	34	1889	22	1898	47	1907	18
1872	98	1881	39*	1890	14	1899	50	1908	15
1873	92	1882	21	1891	31	1900	75	1909	7
1874	74	1883	47	1892	34	1901	43	1910	12
1875	72	1884	34	1893	36	1902	35	1911	26
1876	68	1885	43	1894	29	1903	30	1912	23
1877	96	1886	29	1895	36	1904	25	1913	48
1878	61	1887	25	1896	19	1905	15	1914	13

*no figures from 1 October to 31 December available for this year.

14b) Workers dismissed from brewery for drunkenness or stealing drink

Year	*Workers*	*Year*	*Workers*	*Year*	*Workers*	*Year*	*Workers*	*Year*	*Workers*
1870	3	1879	0	1888	0	1897	1	1906	1
1871	1	1880	0	1889	0	1898	2	1907	0
1872	1	1881	0	1890	2	1899	0	1908	2
1873	1	1882	9	1891	0	1900	4	1909	3
1874	0	1883	0	1892	0	1901	0	1910	0
1875	6	1884	0	1893	0	1902	0	1911	2
1876	2	1885	0	1894	2	1903	0	1912	5
1877	4	1886	2	1895	0	1904	0	1913	1
1878	3	1887	1	1896	1	1905	2	1914	0

Sources: SBTRO, DR 227/82-5

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Jack Chaplin and Reg Taylor, DR 730/24
Peter Silver, DR 730/25, 32, 34 and 36
Bill Collins, DR 730/38

Records of Kendall & Son, brewers' chemists, Stratford-upon-Avon
Sales ledger, 1895-1904. DR 197/12
_____, 1905-1913. DR 197/13
Analyses of breweries' waters, 1890-1904. DR 197/70
Reports on samples received for analysis, November 1886-May 1901. DR 197/71
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List of employees (includes accident ledger), 1953. DR 315/1/15

Records of Stratford-upon-Avon Borough Police Force
(taken over by Warwickshire County Council in 1889)
Charge book, March 1863-January 1869. BRR 67/4
_____, January 1869-July 1880. BRR 67/5
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_____, March 1879-May 1880. BRR 67/7
Description book of people charged, May 1883-June 1889. BRR 67/9
Occurrence book, September 1872-March 1880 BRR 67/10
Route and occurrence book, January 1888-June 1889. BRR 67/13
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Various ledgers, 1876-1954. microfilm A 171-2
Private journal, 1895-1965; sales book, 1872-1920; property register, n.d., *c.*1890-1910. microfilm A 173

Suffolk Record Office

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Warwickshire County Record Office

Wages of farm workers on the Leamington Hastings farm, 1878-1883. CR 198/25
Executor's accounts, letters, etc., relating to John Haddon, head brewer, Binswood Brewery, Hampton Lucy, 1862. CR 556/753
Accounts, papers, deeds and minutebooks, Warwick and Leamington Brewery, 1826-1879. CR 1097/116-156
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Brewers' Journal
Country Brewers' Gazette
Ferment
House of Whitbread
Journal of the Federated Institutes of Brewing, 1895-1903
Journal of the Institute of Brewing, 1904-
Journal of the Operative Brewers' Guild
Licensing World and Licensed Trade Review
Transactions of the Institute of Brewing, 1890-4

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Birmingham Gazette
Birmingham Post
Birmingham Mail
Economist
Evesham Journal
Evesham Standard
Financial News
Gloucester Echo
Hampshire Telegraph
Illustrated London News
London Mail
Malvern Gazette
Morning Advertiser
Oxford Times
Punch
Redditch Indicator
Solicitors' Journal
Sportsman
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